DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

NEW SERIES. **Boston, October, 1871.** VOL. V.---NO. 10.

R. P. EATON & CO., PUBLISHERS, OFFICE, 34 MERCHANTS' ROW. MONTHLY. SIMON BROWN, S. FLETCHER, } EDITORS.

OCTOBER FACTS AND FANCIES.

"The yellow suns of Autumn fall
Across the orchard and the wood;
The still air echoes every call,
The vine lies painted on the wall,
And all the maples drip with blood.

The neighbors come from far and near,
And gather on the broad barn floor;
To celebrate the ripened year,
And strip the husk from off the ear,
That turns to gold the farmer's store."
Riverside Magazine.

OCTOBER brings the fruition of the harvests. The small grains were long ago secured. The hay and Indian corn, the apples, pears, potatoes, and most of the vegetables for family use and stock will be cared for by the close of the month. By this time rough winds will blow. Dry leaves will be heaped under the walls, and rustle along in the garden paths. In the morning, grass will be crisp with frost, and perhaps little pools in the road will have a slight coating of ice.

What a striking change between this and the last of July! Most of the birds that then made the day cheerful with their music have left us. The plaintive note of the bobolink, a few of whom lingered with us until late in September, is heard no more. He is already in his favorite fields of wild oats on the banks of the Delaware or Potomac, or in the rice fields nearer the Gulf. The summer voices in the meadows are dumb. The robin is still with us, visiting the garden for a worm in the mellow soil, or coming in numbers to feed upon the berries which hang in rich profusion upon the branches of the Mountain-Ash trees. Unnumbered crickets make the evening melodious, and the pretty little screech-owl loves to sit at midnight on the garden fence, and hour after hour pour forth his soft and tremulous notes. How this beautiful little night-bird got such a hideous title, we cannot imagine. His notes are the very reverse of a "screech," being low, soft, quivering, and harmonious, as the dulcet notes of the flute.

Many complaints are made of our climate, which, upon the whole, may be as agreeable as that of any other land. We are inclined to think it is. We certainly "have one season, reaching from the last of September partly into November, which is probably as productive of delicious physical sensations as any in the world. It is a season when, in the early cool of the morning, we recognize the first breath of Winter, which is yet afar off, and our fevered frames welcome the invigorating atmosphere as the lips of travellers in Sahara greet thankfully the longed for cup of cold water. Bodily exertion is no longer wearily oppressive; upon the contrary, there is an exhilaration in the air which will not suffer us to remain quiet. As we walk past the

variegated panorama or changing foliage, we begin to think that ten miles now are easier of accomplishment than one was under the old solar radiance."

The idea has been a very general one, that the autumn of the year is a sad season. It is expressed by old writers, and even the sound and placid mind of our Mr. Bryant, seems to have been tinged with it. Speaking of autumn in one of his most charming poems, he says,—

"The melancholy days have come, the saddest of the year."

These feelings may be excited by the processes of Nature. The ripening fruits; the withering and falling leaf; the brown fields; the cessation of growth in vegetable matter, and the general appearance of death and decay in the plants which lately were so full of life and vigor. These changes, however, are more applicable to November than to the present month. But upon a clear October day, with its sky cloudless from the rise to the set of sun, its invigorating temperature and its variety of color, the natural feeling is one of exultation.

In one of his works, Mr. Emerson speaks of a frame of mind when walking, in which he was almost afraid to think how glad he was. Just as we met him a few days since, in a charming wood-path, his countenance beaming with the joy he was "almost afraid to think of." So it is that "the fine October day, with that brilliancy which under a higher temperature might sink us into a dreamy indolence, makes every sense so keen that each moment has its new and separate pleasure. The animal spirits rather rise than sink; the eye is clear to catch the magnificence of the landscape and the glory of the sunset; the ear grows sharper for rural sounds, as they become fewer; the fruitage is always a cheering lesson of the recuperative forces of Nature; and the few flowers which the early frost has spared have a value which we did not accord to the gay and populous parterre."

October is usually a month to be trusted; the time, of all other seasons, for the farmer to go forth with his family and team, to visit relatives and friends, when—

"Upon the brown and far off hills
The haze lies soft and blue,
Wild nuts are dropping thick and fast
Where summer wild flowers grew.

The woods like some grand temple stand
Beneath the glowing skies,
While down the long dim aisles, the haze
Like slumbering incense lies."

FARM WORK FOR OCTOBER.

No other month in the year affords such excellent opportunity for making permanent improvements upon the farm, as the month of October. The pressure of the harvests is mainly over. The weather is cool, and man and beast can work with comfort. Rains are not frequent, and the soil is usually in such a condition of moisture as to render it pleasant and easy to be handled. Now, then, is the time to

Remove Rocks from Grass Lands.

The cheapest and best way to do this, is to sink them where the lower earth will admit of digging. First measure the diameter of the rock and then throw out the earth to an extent a little larger than that diameter, blocking the rock with joist or pieces of timber, against the bank to prevent its premature fall. This is important, because, if the rock is a large one, the operation is somewhat dangerous. We have known death to ensue from a neglect of this precaution. Block up so thoroughly as to be able to dig somewhat under the rock. The hole excavated should be sufficiently deep to allow the rock to fall a foot, at least, below the surface. When this is accomplished, knock away the braces and let the rock go down.

With a heavy sledge and many blows, some large rocks may be broken and handled more easily than if whole. By digging about others, the top may be broken off so as to leave a foot of soil above the part left in the ground. Stones weighing half a ton and upwards, may be got out of the way much cheaper by these processes, than by drilling and blowing.

There are some advantages in this. First, the surface of the land is not changed, as nothing is taken away. Second, the cost of drawing off the stone when thrown out, and third, the cost of carting in materials to fill up the holes. Then there is the gain of having the field pretty thoroughly *trenched*, so far as it was dug over in removing the rocks. These spots will be found the most fertile ones for ten years to come. There is, also, another gain in this work. Half the cost of doing it may be saved in the preservation of ploughs, rakes, mowing machines, tedders and cultivators, and perhaps, the life or limb of a valuable horse, before ten years are half out.

October is a Good Time for Draining.

Some years ago, it was the common opinion that the foundation and main spring of all good farming, was through the agency of *manure*. There is abundant reason to change this opinion somewhat, in regard to many pieces of our best lands.

The grass crop in New England is one of the most important. For this, our moist lands are best adapted. We can get it on friable uplands. But it is more expensive there, because they are more easily affected by drought, and of course run out quicker. On thousands of acres of moderately low lands, the grasses will flourish for many years, if *cold water is not allowed to stand near the surface.*

In order to effect this, these lands should be drained with tiles; not stones, because the soil is usually deep in them and sooner or later mice will find their way through them, rain and sand will follow in their paths, the stones become obstructed and the drain spoiled. If upon digging to the depth of four feet, the hard pan is reached, it may be safe to use stones. But unless stones are abundant, and near at hand, it will be cheaper and safer to use tiles.

If the farmer is not acquainted with the manner of laying tiles for draining, and contemplates using them, he will be a gainer by spending a day or two in looking at others doing the work and conversing with them as to the best modes of proceeding.

At any rate, drain. Drain with something; sticks or boards or stones. Failing in these, make open drains, although they are temporary in their nature, ugly-looking and expensive. But they are better than nothing.

Stone or Wooden Fences.

We hope the day will come when the only fences upon our farms, will be those around grazing lands. Fields abutting on the highway, handsomely finished off and running down to the sidewalks or edge of the road, are more beautiful to our eye than when enclosed by fences of any kind,—stone walls, rails, pickets or hedges. There is no need of them. The laws of all the New England States forbid stock of any kind running at large; and in the few cases of passing droves, or of driving stock to pasture, a little extra help would be needed for a few times only, before the cattle would learn to keep the highway. If half-starved, they would undoubtedly insist upon trespassing wherever they could find something to eat, when it ought not to be considered a hardship by the owner to pay the damages they might cause.

What a vast saving might be found in dispensing with these fences. Use those now standing for building or other purposes and erect no more.

There being no fences to care for except about the grazing lands, let those be of a permanent character, so as to prevent educating breachy cattle.

When this becomes the general practice, there will be opportunity not only to remove the stones from the fields, to drain them, level, remove brush, and make them convenient in every respect, but also to embellish the farm with beautiful and profitable sugar maple trees on the roadsides, keep a neat lawn in the front, or near the house, and assist the women in cultivating fruits and flowers.

The beautiful October will suggest to the progressive farmer many other things which may appropriately be done at this season. Using the time wisely and well, will afford many pleasant reflections, when wintry skies prevent us from laboring in the fields.

For the New England Farmer.

THE UTILIZATION OF BEST FRUITS.

BY GEORGE RUSSELL POWERS.

A vegetable diet has been declared to be impracticable by many persons who have tried one for a limited time. The reason of failures of such attempts is that they have not been conducted on a sound, scientific basis. The scientific world is unpractical, and the practical world is unscientific. A certain combination of element is necessary to sufficiently sustain the human system. In northern regions oil is especially necessary. Yet it is in northern regions that people have often attempted to sustain themselves on a thin, watery diet of acid fruits, and nitrogenized roots and seeds. In northern climates oleaginous products are sparsely distributed by nature. The walnut of the Mediterranean and the olive are perhaps produced in sufficient abundance to supply a great semi-tropical belt with oil and concentrated fibres, but farther north, nut-food is scarcer, although cultivation might produce it to such a degree, if properly economized, as to make indigenous trees meet the wants of men up to the fiftieth parallel of latitude.

The black and white walnuts, the chestnuts,

chincapins, hazlenuts, pecan-nuts and shagbarks of the United States are not cultivated and appropriated as they ought to be. Vast forest tracts should be devoted to their exclusive culture, and machinery devised for extracting their kernels, and manufacturing them into food-staples. The meats of these nuts are exactly adapted in their constituent chemical atoms to form hydro-carbonized and fibrinized foods, better calculated to sustain the body of man in intensely cold weather than the flesh of the inferior animals.

In California the native sugar-pine, a grand and lofty tree, supplies the Digger Indians with large quantities of powerful heat-forming and flesh-producing nuts. In Nevada, the pinton or feather-pine feeds the Pale Utes largely during the winter months. The sickly among the Indians are said to recuperate, and grow robust and fat when the pine nut season arrives.

Beans, when cooked with fat, are quite analogous to nuts in their sustaining qualities, and a vegetable oil might always be used in preference to pork. Fried beans and *tortillas*,—flat cakes made from Indian corn,—are the staple dish in Mexico. Pea soup every alternate day is the regulation dinner in the English merchant service.

The fact is the best vegetable substances are but meagerly appropriated by man. Indian corn is really a sort of dwarf annual palm, and its seeds are more nutritive than those of wheat, rye, barley, oats, or any other of the grasses. The Mexican way of utilizing corn is probably the best, and might be conducted by factories on a great scale. The corn should be soaked in lime water until the cuticle rubs off easily, then ground and dried. Meal made in this way is almost as fine and white as starch, and very palatable,—more palatable than wheat flour, more soluble, more easily masticated, and more nutritious. Our common corn meal consists of rough, angular fragments when microscopically examined,—hard, silicious and almost as insoluble as flint. Machinery for making American corn meal was once taken to Acapulco, but the Mexicans refused to patronize it, preferring, although they are a proverbially lazy race, to rub their corn to a paste on flat stones, by hand, in the old-fashioned way. If their plan was imitated in in the United States by machines, the edible produced would soon become popular, and a formidable rival to wheat flour.

Farming in the United States, while becoming avowedly more scientific every year, is really becoming less and less practical. Yet it is as practicable as ever, and should be immensely profitable, even in barren Massachusetts. There is scarcely an acre of land in this State which cannot be made vastly remunerative in two or three years by careful tillage alone without the application of any manure except such as is applied naturally by sun, air and water.

This may seem a wild statement to some. I invite those who are skeptical to make the following experiment: Let any one who has sterile upland pasture land, overrun with lichens, ferns, bayberry bushes, &c., plough ten acres or less this fall, ridging it across the natural inclination of the land. This will check the waterfall, and cause a rapid disintegration of mineral matters contained. Let a cheap windmill, with wooden cisterns be erected on the highest point, which shall pump water from a well, pond or stream. In the spring cross-plough, harrow and ridge the land as before, and plant Indian corn and white beans on the alternate ridges. Cultivate as usual, without giving any artificial manure, but irrigating freely throughout the summer. When the crop is harvested, throw all the stalks and vines into the furrows, and plough back, ridging where the furrows were, and plant the next season, corn on the bean ridges and beans on the corn ridges, and note the increased yield. No forage from such crops should be wasted by exposure, or taken from the land. It is more valuable as a humus-producing material than in any other way.

I do not pretend to affirm that crops of corn and white beans alone will pay for the immediate outlay required for this experiment, but I do state my belief that systematic irrigation and return of waste substance to the soil, without the intervention of the barn-yard, will gradually fertilize land so that fine fruits and vegetables can be grown on it in a few years and which will not be as liable to suffer from blights and insects as when cultivated in the usual manner. My observation of climates and soils here in the East, in California and the Sandwich Islands, has led me to the conclusion that hand-irrigation will pay proportionally as well in old Massachusetts as in foreign lands.

Kingston, Mass., Aug. 24, 1871.

Remarks.—We should judge that Kingston offers as favorable conditions as most other localities for a practical test of the theory of our correspondent, and we hope he will illustrate its feasibility by an experiment which shall demonstrate the fact that for once at least the practical world is not altogether unscientific.

Discipline of English Jockeys.—The *Turf, Field and Farm* gives the particulars of a case where a rider in one of the late English races fell from his horse in a fit, striking on his head and injuring himself seriously if not fatally, and states that his illness was caused by the severe sweating, dieting, &c., to which he had been subjected to decrease his weight. It is also stated that it is customary for the English jockeys to subject themselves to such treatment to reduce themselves to a certain weight.

THE WEEDS WE MAKE!

OME of the richest plants which we cultivate for table use, even in garden beds, may, by neglect, become the most pestilent of pests. One of them, is

The Wild Carrot.

DARLINGTON. in his valuable work on "Weeds and Useful Plants," states that the carrot is a native of Europe and the East. We give it a hearty welcome in this Western world so long as it is kept in a cultivated condition. Just as we regard fire or our domestic animals,—when subjected to our control, excellent; when sweeping around at will, pestilent and dangerous.

The carrot is a valuable plant for the table, for horses, swine and neat cattle. In our modes of cultivating, perhaps it costs too much to be profitable for the latter stock.

When the seeds of the carrot are allowed to scatter themselves profusely over the ground, and remain unmolested for a few years, they become one of the most persistent and incorrigible weeds with which we have to deal. They exist on the road sides in some of our best farming towns, so as to cover the ground with a dense vegetation some two or three feet high. The number of seeds which they produce is beyond calculation, and when ripe, are scattered by autumnal winds over the fields of all adjacent farms.

The same process takes place in the

Rich and Marrow-like Parsnip.

This plant produces many seeds, and when these are neglected and suffered to sow themselves at random, they spring up the next year, go to seed, speedily degenerate, and in the course of a few years become a troublesome and unsightly weed.

By the use of persistent skill, many plants may be brought up from a bitter, tough, or pungent condition, to a mild, succulent and tender state, so as to furnish a large amount of wholesome and nutritious food for man and beast.

The original potato was small, and was not tolerated as human food for a long time. They are mentioned by old writers as "a delicate dish," and that they were roasted, and then steeped in sack and sugar, or baked with marrow and spice. They were long considered as inferior food, and it was not until the middle of the eighteenth century that they came into general cultivation. A strong prejudice long existed against them in France, but they are now cultivated extensively, and a market in Paris is exclusively devoted to their sale. Now they are introduced into almost every quarter of the globe, and the varieties in use are *entirely the result of cultivation!*

Another plant, common upon many of our tables, is

The Wholesome, Crisp Celery.

Originally, this was a tough, acrid plant, unfit for man or beast, as food, but is now esteemed a great delicacy.

In the grass field, before us, as we write, are the flaunting purple flowers of the

Chicory or Succory.

The root of this plant makes up a considerable portion of the coffee of the shops, mixed with ground peas and a portion of the genuine article. It is one of the most tenacious plants in existence, and if not carefully suppressed will overrun the whole farm. The root is large, quite long, and holds on to the soil with such tenacity that a plant of two years' growth requires a man's strength to pull it up. It is cultivated largely in England as a substitute for coffee.

All these plants, and many others, have a tendency to go back to their original condition, and if allowed the opportunity would probably do so. By careful cultivation, however, we can preserve them

"Delectable both to behold and taste,"

and give us no trouble as trespassers upon cultivated crops in the form of unsightly weeds.

—Over 800 acres are devoted to tobacco in East and South Windsor, Conn., this year; greater in extent than all other cultivated crops except grass; and the yield will be greater, per acre, than ever before produced.

MISTAKE IN THE USE OF CONCENTRATED FERTILIZERS.

There has never been a doubt in our mind, that pure, concentrated fertilizers, or commercial manures, as they are called, may be made profitable to the common farmer. We have used Coe's superphosphate of lime with marked effects, and portions of the same lot distributed among neighbors were equally efficacious. The objection to them is, that they are compounded of several articles, a large portion of which are not worth one-tenth of the price paid for them.

Another cause of failure in them, is in the manner of their application. The reader will find below, from that excellent paper, *The Boston Journal of Chemistry*, a clear state ment of how many failures occur:

"The cause of failure in the use of concentrated fertilizers," the *Journal* says, "is often due to the *manner* in which they are applied. It is difficult for those who have been accustomed to use bulky manures, to realize that the full fertilizing potency of a bushel of animal excrement may be held in a large-sized tablespoon, and that a handful of one adds to plant structures as decidedly as several shovelfuls of the other. A full dose of opium given to patients furnishes quite a dark, bulky powder, or pill; but if we separate the alkaloidal principle upon which its hypnotic power depends, we have only a little delicate white powder which a breath of wind will blow away. The one-eighth grain powder will affect the human organism as powerfully as ten times the weight of opium. If we were so forgetful of 'potencies' as to administer as much, or even one quarter as much, of the white concentrated powder as of the bulky dark one, we should destroy our patient's life, or at least do great injury to his health. So if, in the use of genuine superphosphate, or guano, or ground bones and ashes, we forget their power, and apply too much, or apply them too directly, we endanger the life of our plants.

An experiment made upon corn affords an illustrative case in point. At the time of planting, upon a field divided by a narrow strip of sward land, we directed that on one side a tablespoonful of the mixed bone and ashes should be placed in each hill, and well covered with soil; upon the other, four rows were to be treated similarly, and upon the remainder the hills should receive a double quantity. It is curious to observe the effects. The first field and the four rows are remarkably thrifty. The corn came up well, and has manifested remarkable vigor from the start. On the other hand, the over-dosed corn appeared for a long while as if it had been paralyzed by some wasting disease. It could not bear up under so much of a good thing. More free ammonia was formed at the start than could be appropriated by the tender plants, and many of them perished from over-stimulation and heat, produced by the fermentative changes of the active bodies in contact. The corn that survived, is at present growing finely, and will no doubt afford a large yield.

Now, if this had happened in the course of our regular agricultural labors, and without any understanding of the nature of the fertilizing substance used, it is probable it would have been condemned as a worthless or dangerous article. This has been the case with hundreds of experiments, and is indeed a perfectly natural conclusion to reach. But we must learn to reason, learn to have patience, learn the character of the substances we employ upon our lands. We must be careful how we reach conclusions; we must examine closely to see if they are based upon correct grounds. There are well established principles in agriculture; let us cling to them, and when we get results that are puzzling or paradoxical, we must study causes, and not judge hastily."

FARMING AND GARDENING.

Most farmers confess that a good kitchen garden is a very profitable thing. But many of them have none. Ask them why they do not, and the reply will be, "Oh, I can't stop to fuss with a garden; pulling weeds, and thinning and hoeing all the time." But why not, if a garden is profitable?

One leading cause of unprofitable farming is that too much *poor land* is employed. If less land were used, and that used made richer, more like a garden, more profit would be found in farming.

In a late number of the *North British Agriculturist*, Mr. J. J. Mechi says:—"I could never understand why there should be any difference between gardening and farming as regards draining, deep cultivation, and abundance of manure and produce. I have asked why there should be any difference, and I am told by farmers: 1. That it would not pay to treat the garden as they do the farm—they would not grow enough. 2. When I say that is the strongest argument for gardening the land, I am told by the same parties that they have neither manure or capital enough; they don't mean acreable capital enough, but, in plain English, they admit that they hold too much land in proportion to their capital. Now there is nothing so easy as to double a farmer's acreable capital. I often say to my farming friends who have 600 acres of land, and complain of want of capital, 'take a farm of only 300 acres, and you will at once double your acreable capital, and from my practical experience I can assure you that you will thus considerably increase your percentage of profit.'"

WINE AND TEMPERANCE.

A good well ripened grape is a most delicious fruit. And sometimes when we have had to content ourselves with the immature, perhaps frost-bitten berries of our own vines, we have almost envied those who live in climates which are mild enough to ripen the grape,—to perfect its rich excellencies. But the perusal of a paper which was read before the Wisconsin Horticultural Society and published in its Transactions for 1871, makes us feel more like giving expression to our gratitude that our lives have fallen in pleasant places where the fruit of the vine is not a success. The author of the paper alluded to is Hon. Samuel D. Hastings of Madison. He shows most conclusively the fallacy of the idea that light wines or any other wines promote temperance. The testimony of such American travelers in Europe as J. Fennimore Cooper, the novelist, Henry Greenough, the Sculptor, E. C.

Delivan, Dr. Holland, and others, is quoted at length, all of whom saw enough to satisfy them that wine is the direct and immediate cause of drunkenness, and not of temperance. The result of the observation of these travellers may be expressed in the words of Dr. Holland:—

"Failing to find the solution of the temperance question in the Maine law, failing to perceive it in the various modes and movements of reform, I, with many others, have looked with hope to find it in a cheap and comparatively harmless wine; but, for one, I can look in that direction hopefully no longer. It is the testimony of the best men in Switzerland—those who have the highest good of the people at heart—that the increased growth of the grape has been steadily and correspondingly attended by the increase of drunkenness. They lament the planting of a new vineyard as we, at home, regret the opening of a new grog-shop."

But admitting that the experiment has not worked well in wine producing countries of Europe and Asia, it is asked is this conclusive evidence that it will not work well in this country, where the climate and habits of the people are different and where the use of stronger liquors is common? This question is met fully and squarely by the writer of this paper.

The Rev. Dr. Stone, late of Boston, is quoted as saying, at a convention at San Francisco:—

"I had entertained a sort of hope that the manufacture of pure wines and their introduction into general use, would crowd out the gross strong liquors, and diminish intemperance. I am fully convinced that this hope was groundless and delusive. * * It appears that in the wine growing districts, intemperance is on the increase, extending even to the youth of both sexes."

After having travelled extensively through California, the editor of the *Pacific*, a newspaper of high character, published at San Francisco, says:—

"But through some parts of these mountains, as well as in the valleys, there is arising a species of production fraught with dire evil to the producers and the country; it is that of wine-making. Already wine has become as cheap as milk, and is as freely drank, till many once sober men, are growing habitually intoxicated. In one wine-growing neighborhood we are told that young girls, seventeen years of age, reeled through the streets under the intoxication of pure California wine. Men once of worth, now are, through wine, lost to society, and becoming a fear and disgrace to their families. One leading man enumerated to us five of his acquaintances who, once noble men, are now to be called drunkards, through wine. The production of this article, now fearfully on the increase, must prove a curse to the whole land if persevered in."

W. N. Mills, Esq., a gentleman personally known to the writer of this paper, and the editor of the *Rescue*, a paper published at Sacramento, says:—

"There are a great many people who make the argument that wine drinking will prove a cure for the vice of drunkenness, and they talk with such seriousness, that we are almost compelled to believe them honest in the doctrine they enunciate. But we would ask them to note this:—That every vineyard in the State is a drunkery; that men who a few years ago, perhaps were strenuous temperance people, or at least abstained from drink, are now, that they have wine producing vineyards, rapidly becoming drunkards, and that Los Angelos and Sonoma counties especially, and the other wine producing countries proportionably, are noted for the extent of this vice, just in proportion to the number of gallons of wine they produce. These are the facts of the case as we know them from personal observation."

After listening to the reading of this paper, and after some remarks by Gov. Fairchild, who happened to be present, and by other gentlemen, none of whom would discourage the cultivation of the fruit for the table or for preserving, the following resolution was adopted by the Wisconsin Horticultural Society:—

Resolved, That we, as a society, fully endorse the statement of the address, to which we have just listened: and that we hereby instruct our committee, who have our premium list under consideration, to offer no premiums for wines.

If, then, the late frosts of spring and the early ones of fall nip our vines, and our teeth are set on edge by the sourness of our fruit, let us modify our disappointment by the reflection that the youth of New England are exempt from the temptations which beset those of wine producing countries.

For the New England Farmer.

THE GARDEN IN OCTOBER.

"The morning finds the self-sequestered man
Fresh for his task, intend what task he may."
"Hence summer has her riches, autumn hence,
And hence e'en winter fills his wither'd hand
With blushing fruits, and plenty not his own."

Garden! What is a garden? Enough for our purpose is it to say it is a space of land devoted to the culture of vegetables, fruits, herbs, flowers, &c.; and sorry is the farm, farmer and his family, devoid of a garden. It is as necessary that a farmer should understand horticulture, or gardening, as it is that he should understand husbandry—rearing animals, cultivation of the cereals and grasses, and their preparation to become fit food for man and beast. Many are too apt to think that there is something mysterious in gardening; that in order to success, one must either be a professional horticulturist or hire those who make it a profession, too many of whom prove mere botches, doing more injury than good, at an exorbitant salary. There is no better school for the agriculturist than the garden; for gardening is only the science of agriculture reduced to its finest and most delicate state. In it we have to remember that the finer the production, the more care and skill should be bestowed upon it; that all our finest and most succulent plants and vegetables are in an abnormal, unnatural state—the result of high cultivation; and can only be expected to hold their own or improve by continued high culture, care and skill. In the aggregate, large amounts are paid for new varieties of seeds, plants and novelties, from year to year, and yet after a short season of culture—or non-culture—they become no better than the old sorts we have discard-

ed; whereas, had we given them thorough culture and a little care in selection, we might have retained them in all their excellence, if not improved upon the original. A man procures a fine variety of potatoes, a superior kind of squash, or any other plant, vegetable, or fruit; plants it without any regard as to its requirements of soil, location, &c. and then cultivates in the same careless manner, and soon concludes that gardening, fruit-raising, &c., is unprofitable; and that, as for him, it is far better to buy or go without—the latter most likely—than to attempt gardening.

Most farmers might produce garden vegetables and fruit sufficient to give a good supply, in their season, to their families; yet few of them in our own happy New England are well supplied with the most common varieties. Why is this so? Our answer is, simply, they do not give sufficient attention to diversified productions of the farm and garden. We are glad to notice that much is being done through the inflence of Agricultural and Horticultural papers, as well as by societies and individual example, to induce greater attention to the culture of gardens by our rural residents.

The season for the cessation of direct labor in the garden is rapidly approaching, and what remains to be done should be done at once, for there is no forecasting what a week may bring forth. Besides the harvesting of any remaining crops before freezing, there is much that may be done to enhance another year's profits. First in importance are the destruction of weeds and their seeds; digging and hauling muck, sods, woods-mould, &c.,for compo-ting, or for winter use as absorbents, deodorizers, &c., for making manure, the secret of success in growing nice vegetables and fruits. Overlook no source of supply from which material may be drawn to add to the compost pile, and you will be astonished at the amount next spring.

Asparagus.—Time is gained, and other advantages are obtained, by sowing the seed or setting the roots early in fall. The deeper and richer the beds, the better. Remember, an asparagus bed once made, is made for a life time, and should be thoroughly done. A good bed is profitable; a poor one unprofitable.

Beets should be harvested and stored before freezing weather; dry them before storing.

Blackberries.—New plantings may be made this month, soon as the leaves fall from the plants. Enrich the soil with a compost of leaves, turf and well rotted manure.

Cabbages.—These may be wintered by setting in trenches, the heads even with the surface and covered with stalks, straw or other coarse litter, with a board or two over them, so they may be reached during winter; or they may be set in trenches, heads down, and covered with five or six inches of soil. Plants for wintering may be set in cold frames, inserted down to the leaves, set close together.

Celery.—Remove any decaying leaves, and earth up with dry earth before freezing. Celery must be kept dry and cool, but free from frost. Care must be used to keep dirt from getting between the leaves into the centre, as it is apt to injure it in several ways.

Cold Frames may still be made in time for profitable winter use.

Grapes.—Gather late varieties as fast as ripe; remove defective berries, and save by packing in boxes, in a dark cool place, with grape or fern leaves between the layers. Dianas, thus packed, may be kept till grapes come again, where an even, cool temperature is maintained. Vines may be pruned soon as the leaves fall. It is claimed by some European vineyardists that the vine is more fruitful if pruned in September. A. S. Fuller says he prunes in December. With my own vines, I have best crops by pruning in February. This may be from greater age, or something else, in the vines or season.

Lettuce sown last month, will now be large enough to transplant for permanent growth. Transplanted into cold frames over a bed of leaves or spent manure, will enable one to enjoy this salad all through the winter, with a little protection and care in guarding against frosts.

Onions.—Seed sown in very rich, light soil, in drills a foot apart, with a light protection of litter, will start very early in spring.

Parsnips, wanted for winter use, may be dug just before the ground closes in and be packed down in sand in the cellar; which is the best way for preserving roots of any variety for domestic use. Leave others in the ground where they grew, as they are sweeter in spring, thus preserved.

Salsify.—Treat the same as above directed for the parsnip.

Spinach.—Thin out young plants and give light protection of leaves, &c.

Strawberry Beds.—Give protection of evergreen boughs at the approach of cold, freezing weather. A sprinkling of the beds with good hard wood ashes will be a benefit, inducing greater fruitfulness in future.

Tomatoes.—Where these have not been already cut by frost, they may be still longer preserved by covering the plants, or by pulling the vines and hanging them in a warm, protected situation. Fruit set and partly grown will thus often ripen up, and may be enjoyed for some time. Small, partly grown fruit, makes excellent pickles, mixed with peppers, &c.

Turnips improve greatly after cool weather, before freezing, in the ground.

W. H. White.

South Windsor, Conn., 1871.

KNOWLEDGE REQUIRED IN FARMING.

There are many who look upon farming as rather a small business, who think that its successful prosecution requires only a little common sense—just enough to prompt the hardy worker to seek shelter in a rain storm, and a very little knowledge just sufficient to count a flock of sheep, or read a political newspaper. This opinion was once more general than now, for the world is growing wiser, yet at the present time it is entertained by many. It is an old and true saying, that "honor and shame from no condition rise," that honor is only acquired by acting well our part in whatever situation we may be placed. A man of ability and knowledge who devotes all his energies to his business will make it honorable and profitable no matter how insignificent that business may at first seem.

There is no business requiring such varied acquirements, so much knowledge, so much good judgment and commercial ability combined, as is necessary for the thoroughly accomplished farmer. He stands first among the manufacturers of the land, he makes the wheat and corn, the beef and mutton and pork, the wool and flax; and manufactures from the earth, the air, the water nearly all that we eat and wear; and this is not only done by farmers as a class, but almost every one produces many if not all of these articles.

The manufacturer usually confines his labors to the production of one article, but the farmer is by necessity compelled to make many. If he would make grain he must also make beef or butter and cheese, or mutton and wool. Hence the necessity of extensive knowledge. It is an easy matter for the manufacturer to ascertain how much wool will make a yard of cloth of a certain description, and what will be its cost; but it is not so easy for the farmer to ascertain how much grass or hay or grain will make a pound of wool. The manufacturer can test a new machine and ascertain by a few simple trials whether it will manufacture the desired article cheaper or better than the old one; but to ascertain how a pound of beef can be made the cheapest, what machine will convert hay into rich cheese in the cheapest and best manner, is a matter requiring a good deal more care and skill.

Among his varied acquirements, the farmer should possess a knowledge of animal physiology, so as to be enabled to keep his stock in health and administer proper remedies in case of sickness. Vegetable physiology too must not be overlooked. Every day during the growing season, the farmer performs work for the growth of his crops founded on the known laws which govern vegetable life. Entomology is a science which the farmer is compelled to study to some extent, and often much more perhaps than he desires, but the more he does so the better he is fitted to wage a successful war against thousands of destructive foes.

In addition to all this, the farmer must be a merchant, for he must sell as well as manufacture. He must in some measure take advantage of the rise and fall of prices, select the best time for selling and the best market, or after all his toil and anxiety he may find but a poor return.

When we cotemplate this subject, at which we have merely glanced, in all its bearings, we are led to exclaim, Who is competent to this work? Heartily do we pity those who think that farming furnishes no scope for the exercise of knowledge or ability. If this opinion were entertained only by those engaged in other pursuits, it would be of no serious consequence; but we judge that many farmers have themselves imbibed such unfounded and unjust opinions in regard to their calling, and where this is the case there is an end to all improvement and all desire for improvement. A man must have a good opinion of his calling, a proper appreciation of its importance and the means and information necessary for its successful prosecution or he cannot hope to succeed.—*A. J. D., in Ohio Farmer.*

THE WILSON STRAWBERRY.—I have known the Wilson for many years, have eaten it *ripened* in western New York, in Cincinnati and in Missouri, and I do not hesitate to say that, when fully ripe, it surpassed in flavor the Hovey, Russell's Prolific, Agriculturist, and is fully equal to the Jucunda or Triomphe de Gand. And for size and beauty of form, I think it surpasses, at least in this section, either of the above varieties. The fact that this berry colors early and *looks* fit to pick at least a week before it is ripe, has induced many to condemn it as an amateur fruit. Let any of your readers try the experiment of leaving the Wilson unpicked till it assumes a rich, dark color, and then try it with any of his favorites, and I believe he will find that for size, richness of flavor and general acceptability, it is hard to beat.—*Cor. Rural New Yorker.*

REMEDY FOR BONE SPAVIN.—I have found the following remedy entirely successful, applied to a mare I have. She was spavined three years ago, and had been lame about two months when I began to use this remedy. I applied it about three weeks, and cured it so that she has not been lame since. The enlargement of the joint remains the same as when using the remedy: Take cantharides, 1 oz.; mercurial ointment, 2 oz.; tincture iodine, 1 1-2 oz.; turpentine, 2 oz., corrosive sublimate, 1 1-2 dr. Mix the above with one pound lard. Clip the hair on the enlargement and apply for three days. Then wash clean with soap suds and grease it for two days; then apply the remedy again as before.—*S. S. Gardner, in Rural New Yorker.*

For the New England Farmer.

DRAINAGE OF DRY LANDS.

I am much obliged to "Fireside Farmer" for his very courteous reply, in the Farmer of August 5th, to my inquiry in regard to the drainage of Ex-Governor Smith's dry land, alluded to in a previous number.

I have oftentimes thought that much misunderstanding exists in men's minds by not knowing just the idea that the writer intended to convey. In the case of "Fireside Farmer," the land he operated on in England is described as "light, loamy clay, very gritty, and a part of it almost what would be called gravel bed." Now, this to a New England mind may convey but a very imperfect idea of the kind of land operated upon. If he would tell us how many months in a year his drains discharge water, it would give us a better idea of what is considered light land in England, where the humidity of the atmosphere is greater than it is here; and, consequently, the amount of water to be got rid of, either by drainage or evaporation, is greater.

The larger part of the land which I cultivate is what is called gravel bed, of so porous a texture that we are not obliged to wait any length of time for it to dry, after a rain, before we can work it. I suppose that the largest part of the land which we cultivate is of so porous a texture that if it was trenched and drain pipe put in, there would be six or eight months in the year that they would discharge no water.

One of the results of the drainage of the land in England, he says, was to render it porous. The great trouble with much of our land is that it is already too porous; and, as a consequence, I sometimes pass a roller over it to make it more compact.

Another result which he claims for his drainage is not so obvious to my mind; and that is it gave it power to retain a healthy quantity of water at a depth where plants could reach it, and in a position where it could not be evaporated by the heat of the sun. In our climate, we are obliged to lay our drains three feet deep, generally, in order to get them beyond the effects of frost. As I cannot suppose that there is much of a reservoir short of that depth, I think it would be rather hard for the roots of many plants to find their way down so far in search of moisture.

Now, I am quite an advocate for under drainage. I have done a little of it, and always with very satisfactory results. Indeed, I once put one through a very porous piece of land, to drain a cellar, and though a drop of water was never seen to pass through it,—that from the cellar always settling into the loose gravel before it got through,—yet like Governor Smith's drained dry land, the grass over the drain was much better than on the adjoining land.

But I have a theory about it more satisfactory to me than under-drainage. My theory is, that if all our gravelly soils were trenched to the depth of four feet, and two feet of this space filled with small stones and covered with the surface soil, it would be greatly benefited by it. The stones absorb no water, but they condense the moisture that is brought up from below, and hold it, as a kind of reservoir, to be parted with as evaporation goes on from the heat of the sun. In this case, instead of having four feet in depth of this dry gravel to saturate, we have but two. In accordance with this idea, then, I consider under-drainage is a misapplication of terms.

I make these remarks because I think drainage is sometimes made a hobby of, and being recommended in localities where common sense indicates it to be useless, there is danger of prejudicing the minds of farmers against the drainage of land where there is an injurious excess of water. It is the dissemination of *correct* views which we should aim at.

I would like to ask "Fireside Farmer" if he thinks that, under our present laws for the division of real estate, with no law of primogeniture in force, with land held in small parcels, which is being continually subdivided, and with a government that stands aloof from such works of improvement, any very extensive system of under-drainage of dry soils will be likely to be undertaken? I also wish he would tell us how it is that a tenant in the old country can afford to carry out such expensive (or what would be considered so in this country) systems of drainage, while here we think that it can be done only by those who have means outside of their farms. I presume he is abundantly able to give us information on these subjects, and I hope he will be disposed to do so.

J. L. Hubbard.

Peabody, Mass., August 16, 1871.

For the New England Farmer.

FACTS AND SUGGESTIONS.

Condition of Farmers—Value of Swamp Land—Saving Manure—Restoration of Exhausted Land—A Home-made Fertilizer—A Hopeful View.

It is now the third year of the depreciation of the hay crop with most of high ground farms of this and other New England States,—not more than half a crop, compared with last year, with yet another short crop booked for the future; as, let it be ever so wet, the grass roots are past restoration in one year. Hay being the most remunerative source to the farmer at this time of the low prices of cattle, how can the old fashion farmer stand the strain of high taxes and high labor?

A new era of farm management must soon be entered upon or the New England Farmer and other agricultural papers will reap a golden harvest for advertising "Farms for Sale," with comparatively few buyers. A few of these improvements I will mention as they come to mind.

First, get up a high estimate in your own brain of every acre of unsightly swamp land that you may possess, though heretofore it may have been counted worthless. After a little engineering, strike a deep ditch through its lowest outlet, bring to light those inexhaustible stores of richness collected from the high lands since the days of the antediluvians, by draining it dry; pull all the stumps, trees and bushes from its surface; plough it; sow on from 20 to 50 bushels of lime to the acre to correct its acidity, and sow thickly with timothy. One acre shall produce more than the best five of high and dry field land, in all these years of continued drought, without the need of 25 ox-loads of barn-yard manure to the acre, to be felt only three or four years.

If the farmer is not afraid to take exorbitant interest on his money now invested in banks, railroads, and government bonds at from six to ten per cent, let him draw it from these and other places of investment and receive, in this case, one hundred per cent.

I have cleared about two acres of such swamp land at a cost of about $50. Though not yet ploughed or reseeded, it pays me this year the interest on $500 at 6 per cent. A neighbor of mine having improved four acres of swamp, cuts this year of short hay crops, 10 or 12 tons of the best of hay without any prospect of immediate depreciation.

Another improvement in farming may be made by those who have not already done so, by hauling in turf, loam, swamp mud, mixed with lime, into the barn-yard, barn cellar, hog yard, and under sink spouts, thereby saving all the manure that can be secured in this direction.

And yet, in my opinion, for a farmer to think to bring up an old exhausted farm to a high state of fertility by barn-yard manure alone, made on his own farm, is like a man's stepping into a basket and attempting to lift himself by the handles. While he is bringing up one acre, two are running down.

A home-made phosphate may be had at a cost of not more than $20 a ton, by taking at the rate of 100 lbs. of raw ground bone, 100 lbs. wood ashes, 100 lbs. plaster, wet into a soft mud, to stand some days and then dried off by as much more dry dirt scraped out from under buildings containing nitre, or by nitrate of soda at $9 per hundred. This composition contains all the four bases of plant food, according to Professor Ville's theory. This composition is in part my own discovery, and is within the reach of every farmer. I have tested it during the last year so far that I feel authorized to say that an acre of land can be manured at a cost of five or six dollars, equal to that which receives 20 or 25 ox-loads of barn-yard manure.

I cannot close this short article without a word of exhortation or of encouragement to the farmers of Maine, New Hampshire, and other states in the Union, where drought, grasshoppers, and short crops are the order of the day. As the purposes of the Divine mind only tend to the good of the creature, these years of continued drought tend to fertilize the soil, drawing the nitre to the surface of the earth where it helps to feed the vegetable world, while continued rain would carry it and keep it below the reach of roots of plants. The earth is also enriched by the action of the sun, as it is well known in England that land ploughed and suffered to remain uncultivated through a summer's sun is improved in fertility. That the earth is similarly improved by these years of drought is evident to every observer, by the noticeable fact of the great amount of butter-cup or crows-foot that covered hill, dale, and pasture the present year, where it was not seen before. As this plant is found only in the best and richest soil, we argue that the earth has become more fertile for the drought, and will again more than compensate the agricultural world for its losses, crosses and disappointments, when the wet seasons, in their astronomical rounds, shall again visit our globe. M. J. HARVEY.

Epping, N. H., 1871.

HOW TO GET PLENTY OF FRESH EGGS.

In a long communication to the *Germantown Telegraph*, upon the subject of poultry, Mr. E. Dwight of Hudson, Mich., considers, the question "How to get plenty of good-flavored fresh eggs with little trouble," and thinks if there is any secret in it, he has discovered it, and makes the same public for the benefit of all interested. He says:—

"Once, thirty years ago, I was troubled just as my neighbor now is. I fed my hens plenty of corn and got but few eggs. I reasoned upon the matter, and happened to think that the constituent parts of milk and the white of eggs were much alike. Now, it has long been known to milkmen that wheat middlings and bran are about the best of any feed to make a cow give milk; why not then the best to make the hens lay eggs? I tried it, and since then have had no trouble. My mode of preparing the feed is to mix about five parts of bran with one of middlings. In the morning I wet up with water about four quarts of the mixture in a large tin pan, taking pains to have it rather dry, though all damp. This I set in a warm, sunny spot, south of their shed, and they walk up, take a few dips, don't seem to fancy it like corn, and start off on a short hunt for something better, but always coming round in a short time for a few more dips from the dish of bran. There is little time during the whole day but what one or more are standing by the pan, and likewise helping themselves.

I am careful to mix for them just as much as they will consume during the day. At night, just before they repair to the roost, I

usually throw them about a pint of shelled corn, well scattered, so that each one can get a few kernels. If your hens don't incline to eat this feed at first, sprinkle a little Indian meal on top. I would like all who complain of not getting eggs to try my plan, and I think they will never be sorry."

CORN vs. HAY.

There is no doubt that the hay crop of New England is very small. In many sections of Maine it is nearly a failure. Take it as a whole, it may be as small as in the scantiest years hitherto. In most places the price of hay has advanced beyond precedent, and almost a panic prevails. I was lately told of three cows being given for one to be returned next spring, and of cattle being sold for $10 and $20 which would have commanded five times as much within a twelvemonth; cases are of daily occurrence where they are sold at prices ruinously below the cost of growing them.

Such being the facts of to-day, I beg to offer through your columns, a few suggestions; and the first is, that this calamity, like others permitted by a Wise Providence, has its compensations. Among them a very large one is the promised abundance of the corn crop. The prospect is such that the price has been receding rapidly for some time, and corn can now be had in Chicago for about forty-two cents per bushel. To this twenty or even thirty cents can be added for transportation, and yet a ton can be laid down in Maine for less than the current price of a ton of hay. At seventy cents per bushel of 56 lbs., 2000 lbs. would cost $25. What may be the comparative value of hay and Indian corn we will not attempt to sate with precision. There is more difference in the feeding value of what is called "hay" than there is in that of marketable corn. Some hay is worth *a great deal more* than some other hay. It is held by our farmers generally that a pound of corn is as good as two pounds of average hay; that twenty bushels of Indian meal, weighing 1000 lbs., will go as far in wintering cattle as a ton of hay; some think twelve or fifteen bushels to be as good as 2000 lbs. of English hay. If these estimates be near the truth, it would appear that the equivalent of a ton of hay can be had in Indian corn for $10 to $15, while the hay is held at twice as much, or more.

My next suggestion is that instead of selling cattle at the prices they now bring, they be kept over till spring, using, if need be, as little hay and as much purchased concentrated food as will answer a good purpose; and instead of barely carrying them through alive winter them so well that when put to pasture next spring they will begin at once to thrive, and keep on steadily thriving, and not lose a considerable part of the season in making up winter losses. There is small danger of so many following this method as to glut next year's market. The prospect is fair that the operation would pay handsomely. Indeed it would if every farmer in the State should adopt it. I am aware that the mass of Maine farmers are not in the habit of buying commercial manures for their hungry lands, nor commercial articles of cattle food for hungry stock, except to a very limited extent; but the suggestion is offered that the present is a particularly favorable opportunity to break up the habit which has prevailed extensively, of depending so exclusively upon hay. This is an age when old notions and old practices upon many matters are being broken into as never before, and I believe that one part of the design of a wise and loving Father in dispensing so scanty a crop of hay this year is to teach us much needed lessons, one of which, if we learn it well, will be of more profit to us than any two crops which were ever harvested in the State.

The idea that a farmer can, and may with advantage, as often as the years come round, buy materials to be manufactured into crops and cattle, is novel to American farmers, but it is an old one to farmers in old countries; in fact, it is *the* method by which British farmers make the *business of farming* so profitable. They do not live upon what they *earn* so much as upon the profits of their business transactions. They buy manure and sell grain; or they buy grain or linseed or cotton seed cake, or Carob beans or any cattle food which the world will sell at paying prices, and sell meat, butter, cheese, &c.

Another thing; when the English farmer buys cattle food, he does not, ordinarily, expect to get back all the purchase money directly. He knows very well, as an every year's transaction, where competition is as close as what he has to encounter, that this can be expected only in rare cases; but he does expect to get the balance, together with all the profits, in the means of increased fertility for his own lands.

The manure question is one which is much talked of and much thought of, but too little done about. One way, and under given circumstances, the best way to buy manure is in the form of cattle food. Poor fodder makes poor manure; scanty fodder poorer still. Poor manure insures poor farming and short crops. Lean, hungry, run-out fields feel drought and all other drawbacks, as well-fed fields do not.

Honesty is good policy in dealing with neighbors. It is equally good policy in dealing with one's self and one's own possessions. Our lands have long been drawn upon for what goes to make bone, and hides, and muscle (and these are far more exhausting than what makes fat) and we have made small returns, greatly insufficient to make good the draft. We have sold and sent away that which constituted the virgin fertility of Maine

soils; we have brought little back to them. Reckoning day is sure to come. In fact, part of the bills for damages are presented this summer. With them comes also a rare opportunity to buy as much as we will of the fertility of Western prairies and put it upon our hungry fields. Why not not buy liberally? —*S. L. Goodale, in Maine Farmer.*

THE PEAR TREE BLIGHT.

Does anybody know the cause of the blight, and the remedy therefor, which is destroying so many of the best pear trees? It attacks only a branch or a twig at a time, and when it first strikes, the leaves look as if they had been scalded. The sap speedily dries out of the leaves, and the limb dies. The only remedy we know of, thus far, is amputation of the diseased part. This does not protect the rest of the tree, while it is a severe remedy that spoils the shape and looks of the tree, and makes the owner's heart ache. Who knows of a better remedy? Many an anxious owner of fine pear trees, which begin to show signs of the coming fate, would like to know.

Our attention was called to this, a few days ago, by Mr. Sherwood, whose trees are suffering severely. One of his neighbors had a tree attacked in the same way, and supposed it had been struck by lightning, so strangely did the branches wither. More recently Senator Hubbel showed us six or eight valuable trees in his fine garden which are perishing with the blight. From the way in which a single twig or limb first begins to wither, we are inclined to attribute the blight to some local cause. We carefully examined several limbs, and found some of them had been attacked by a very small worm or insect, which not only perforated the bark, but in some instances had completely girdled the limb by eating round it under the bark, next to the wood. Is this what causes the blight? If so, will an application of carbolic acid, as soapsuds, or in some other form of wash, prove a remedy? Will its use early in the spring and at intervals afterward prove a preventive? Or does the insect or worm hatch from a nit laid in the bark? Who can throw any light on the subject? If some remedy and preventive is not soon discovered, we fear our pears and next our apples will follow our plums.—*Utica Herald.*

SHALLOW SEED-BED FOR WHEAT.

Mr. C. L. Olmstead, of Le Roy, Genesee County, N. Y., after long experience, favors the plan of sowing wheat after corn without ploughing. The theory is—and it is held by many of our best wheat growers, F. P. Root among the number—that in a shallow seed-bed the roots are more in number, and spread out near the surface. Consequently they rise and fall with the surface soil, under the operation of freezing and thawing in late winter and early spring, the time which so sorely tries wheat. If the ground is made mellow deep down, the tendency of the plant is to form a tap root with few laterals. When the surface is lifted with the frost, this root is broken off, and the plant is left on top to die, when the ground settles again to its place. Mr. C. L. Olmstead prepares all his corn ground for wheat, with the harrow alone. Last year his corn stubble was carefully ploughed for wheat, with the exception of a strip twenty-five feet wide across the field, which was harrowed. It was all sowed at the same time and in the same manner. The wheat on the dragged strip was much heavier, and every way better at harvest than that on the ploughed land.—*Rochester Rural Home.*

CROSSING LONG WITH SHORT WOOL SHEEP.—You ask for experience in crossing long with short wool sheep. I will give you mine. Two years ago I selected forty large Merino ewes, and served them with a Leicester buck. The lambs were large and did well. No trouble about the ewes giving milk enough.

Last year I used the Leicester buck to all my Merino ewes, and this summer find more or less small lambs from small and young ewes. I made this cross to get larger sheep, as my sheep were getting too small. My last year's lambs which I sheared this summer averaged four pounds per head, which is rather light shearing.

I had had some experience a number of years ago in crossing the long wool ewes to Merino bucks, and I think the results were more satisfactory than the crossing of fine ewes to long wooled bucks. This I think the proper way to cross, if one is not satisfied with the long wool in its pure state.

I think that the fine buck with the coarse ewe can be followed up for a number of crosses; at least four or five, before the sheep became too small to be profitable mutton sheep, with a continual increase in the shearing qualities. —*Cor. Western Rural.*

GETTING WET.—*Hall's Journal of Health* sensibly discourses:—Summer showers frequently overtake persons and "wet them to the skin;" it is then safer to walk steadily and rapidly on, until the clothes become dry again, than to stop under the shelter and remain there still until the storm is over. If home is reached while the clothing is yet wet, take some hot drink instantly, a pint or more; go to the kitchen fire, remove every garment, rub the whole body with a coarse towel or flannel, put on woolen underclothing, get into bed, wrap up warm, and take another hot drink; then go to sleep, if at night; if in the day time, get up in an hour, dress and be active for the

remainder of the day. Suppose you sit still in the damp clothing; in a few minutes chilliness is observed, the cold "strikes in," and next morning there is a violent cold, or an attack of pleurisy or pneumonia which, if not fatal in a week, often requires weeks and months and weary years to get rid of. The short, sharp rule should be, if the clothing gets wet, change instantly, or work or walk actively, briskly, until perfectly dry.

Watering Sheep.—A correspondent asks if it is necessary to furnish his sheep with water. We answer, Yes. Not that they will not live without it, for we have known them to be without drinking for a month, and apparently suffer but little if any inconvenience But we have also noticed that where they have access to good, pure water, no animal resorts to it with more regularity, or partakes of it with more seeming satisfaction. Especially do we think it important that ewes with unweaned lambs should have water within easy reach. We speak of good, pure water; for not only sheep, but all other animals are only injured by the poisoned, stagnant water afforded by ponds and holes during the hottest season; and if they have to die, we don't know but it had as well be by famine as the equally sure method of poison.—*Western Rural.*

EXTRACTS AND REPLIES.

DISEASES AFFECTING RESPIRATION.

I have a heifer which has a cough, and at times seems put to it for breath. When hurried up hill she will run out her tongue and seem in great distress for breath. Can you inform me what to do for her? Albee Buss.

Cambridgeport, Vt., Aug. 19, 1871.

Remarks.—Before answering the question of our correspondent, we propose to give a brief description of three of the several diseases which affect the function of respiration,—*bronchitis, emphysema,* and *asthma.* And we premise with the remark that respiration, the organs by which respiration is performed, the diseases which affect those organs, and the proper remedies for such diseases, are the same in the brute and in the man.

The function of the *trochea* or wind-pipe is to convey air to the lungs, and just before entering those organs it divides into two smaller pipes called *bronchi* or bronchial tubes, one of which branches out to every portion of the right lung, while the other, in like manner, ramifies through every part of the left lung. The trachea and the bronchial tubes, even to the smallest of them, are composed of numerous rings of *cartilage* or gristle, and these rings are connected together and moved by muscular fibres. The smaller bronchial tubes, or extreme branches of the trachea, terminate in numberless little cells in which the purification of the blood, which is the proper function of the lungs, takes place. All of these air tubes and air cells have their inner surface covered by a thin soft membrane like that which lines the mouth and throat, and which secretes a peculiar substance called *mucus,* and is therefore called *mucous membrane.* These tubes and cells are connected with each other and with the pulmonary arteries and veins, by means of *cellular tissue,* such as is seen directly under the skin and in various other parts of the body. Now, when that portion of mucous membrane which lines the bronchial tubes and cells becomes inflamed, we have a case of Bronchitis; and when, from violent coughing, excessive running or lifting, or any other cause, some of the bronchial cells are ruptured so that air escapes into the connecting cellular tissue, we have a case of Pulmonary Emphysema or Emphysema of the Lungs; and when, from any cause the muscular fibres of the smaller bronchial tubes assume a state of prolonged or permament spasm, we have a case of Asthma.

Bronchitis, then, is an inflammation of the lining membrane of the bronchial tubes, and it may be either acute, sub-acute, or chronic. *Acute* bronchitis is generally produced either by the action of cold, or by the action of some morbific agent in the atmosphere. In the human subject, it is commonly preceded by inflammation of the mucous membrane of the nasal passages, which travels downward to the air vessels of the lungs. The cough is at first painful and dry, but after a few days, the patient expectorates a frothy fluid sometimes streaked with blood, which soon gives place to a more free expectoration of a thick, yellowish or greenish matter. As a general rule, respiration is not greatly affected, and the febrile symptoms, are, usually, moderate. The average duration of this form of bronchitis is ten or twelve days. *Sub-acute* bronchitis is only a milder form of the disease, and requires but little attention. *Chronic* bronchitis is a disease of more serious import, and is sometimes mistaken for pulmonary consumption. It is generally a sequel of the acute variety of the disease, and is most common in persons who have passed the middle term of life. The symptoms differ but little from those of acute bronchitis, except that they are less severe, but more persistent.

In regard to the treatment of persons affected with bronchitis, we will only say that in mild forms of the disease, very little need be done, and in the severer forms the patient should be under the care of a judicious physician. If we had a horse, an ox, or some other domestic animal affected with this disease, we should depend chiefly on a free use of an infusion of flaxseed, or some other mucilage, with plenty of nourishing food. We would also keep the animal dry and warm, and give him pure air to breathe.

Pulmonary Emphysema denotes the presence of air in the cellular or connective tissue of the lungs, and arises from rupture of the air cells.

It is a chronic affection, is unaccompanied by fever and in a majority of cases it is gradual in its development. The most prominent symptoms of this affection are labored breathing (*dyspnœa*), in which the act of inspiration is shortened, and that of expiration prolonged—a hard spasmodic cough, with more or less expectoration; and a congested or livid appearance to the skin, especially to that of the face. In severe cases the *dyspnœa* or labored breathing is habitual, and the patient is unable to take active exercise without suffering for want of breath; but in milder cases, the respiration is disturbed only by exercise; dyspnœa is not habitual. The cough occurs in paroxysms, and these are accompanied by much congestion or fullness of the face and enlargement of the veins of the neck. As this affection is often caused by bronchitis, and is generally associated with it in someway, the treatment should be the same as for that disease; and in proportion as the bronchial inflammation is subdued, the patient will be relieved; but pulmonary emphysema itself, is incurable.

ASTHMA, properly, consists in a spasmodic affection of the muscular coat of the smaller bronchial tubes; but the term is frequently, though erroneously, applied to that form of dyspnœa which attends certain obstructions in the heart.

The symptoms of asthma resemble those of Emphysema of the Lungs, except that they occur in paroxisms, and the paroxisms are not commonly brought on by exercise. Indeed, asthma is of so common occurrence that its symptoms need not be particularly described, although those of pulmonary emphysema and valvular disease of the heart are often confounded with them.

So many things have been employed for the cure of asthma, or for the mitigation of its paroxisms, that we shall mention but a few of them. In a certain proportion of cases Indian tobacco (*lobelia inflata*), and common tobacco are especially efficacious. They need not be carried to the extent of producing vomiting, for if not effectual when nausea is induced, it will be useless to push them further. The inhalation of the vapor of chloroform or ether is a measure of great value in many cases of this disease; but such remedies should be employed only under the supervision of a physician or some other competent person.

The disease called *Heaves*, which is so common among horses, and which may occur in other animals, is very generally supposed to be identical with asthma in the human subject; and, doubtless it is so in many cases; but we believe that many times it is caused either by emphysema of the lungs, or by a disease of the heart.

We suppose our correspondent's heifer labors under either *pulmonary emphysema*, or that particular form of asthma which results from a dilatation of the heart and obstructed circulation, caused by a diseased state of some of the valves, and called *cardiac asthma*,—probably the latter.

We would advise that the heifer be kept as still as possible, and fed flax-seed tea, with plenty of good food; and if she does not improve before long, we advise our friend to make beef of her, for neither of the affections, last mentioned, will impair the quality of the flesh—that is, if the disease has not progressed so far that she will not fatten. J. H. S.

West Brattleboro, Vt., Sept., 1871.

SUMAC.

I see that American Sumac is quoted at $75 per ton. Now how is it prepared? What is saved? Where is there a market? H. E. T.

West Cornwall, Vt., Aug., 1871.

REMARKS.—Sumac is prepared in different ways. Only the leaves are valuable. No stems nor other parts of the plant must be mixed with the leaves. They are gathered after attaining full growth and before frost or before they fade or turn red. A correspondent of the *Country Gentleman* says, cut the stalks of the present years' growth and cure them as you would hay, taking care to preserve it from rain and dew, as both injure it same as they injure hay. Put it in the barn and examine it often, for a time, for it will heat and spoil very soon if not properly cured. Let it lie until the weather is very cold; then thresh it. This may be done by throwing it on the barn floor three or four feet deep and put on a span of horses. They will soon tread the leaves from the stalks. Rake off the sticks and put on another flooring. When the leaves and small branches that do not rake out have become a foot or more deep on the floor, put the horses on to that, and tread and stir it until it is quite fine; then sift it with a large coarse sieve—about half-inch mesh—and it is ready for sacking. Before using, it is ground in a mill somewhat similar to an old-fashioned bark mill. These mills are made in Virginia, and we suppose it is usually sold after being ground and bolted. Sometimes it is spread on lattice work for curing, as it is gathered. In Sicily the roots are planted and cultivated. It is used for tanning morocco and for dying and printing calico, and could probably be sold where morocco is made or calico is printed, and in cities where these manufacturers obtain their supplies, but we have no positive information on this point. Richmond, Va., is quite a market for it.

From two to five hundred thousand dollars are paid yearly for imported sumac, and until recently it was supposed that the American shrub was worthless. But it is now demonstrated that the sumac grown in Virginia is equal to that imported.

The Washington Agricultural Report for 1869 has an article on the subject, with analyses showing the amount of tannin, &c., it contains, with a promise of further information in the Report for 1870, which may be obtained when published! We think we have seen a statement to the effect that the sumac grown at the north was less valuable than that grown in Virginia and other Southern States, but are not able to refer to it now.

We hope these remarks will call out a more intelligible reply to the questions of our correspon-

dent. A good article of sumac, properly prepared, brings double the sum named by H. E. T.

MEAL FOR MANURE.

It was stated in the Farmer some weeks since that the tobacco farmers of the Connecticut valley were using corn, barley and other meal for manure. As the price per pound of such substances is much lower than that of most of the commercial manures, as the chance for adulteration is vastly less, and as there is no trouble in getting them at a fair market price anywhere, we should feel much interest in the statement of men who have used them in regard to their working.

Cotton seed meal is said to make a richer manure when fed, than corn or wheat. I have just top-dressed two square rods of grass ground, one with twelve and one-half pounds cotton seed meal, and the other with same amount corn meal. This would be equal to one ton, or forty bushels per acre. These grains contain all the elements necessary for plant food. They are easily obtained and applied. It seems to me reasonable to suppose that these substances would make a cheaper and more reliable fertilizer for hill application than any of the guanos, poudrettes or phosphates in the market.

It is not too late for experiments to test their fertilizing value in some measure this fall, on winter grains and mowing lands. F.

Franklin, Mass., Sept. 4, 1871.

Remarks.—The following paragraph, clipped from the Springfield, Mass., *Homestead*, is the only report of the results of experiments in the use of Indian meal that we have seen. Mr. L. G. Curtis decided when he cut his tobacco, that the crop where he used the Indian meal was worth one-third more than it was where he used the same worth of other fertilizers. He has been trying different modes of enriching his land for several years; has used hay ploughed in, and sometimes ploughs in a crop of rye, green, both of which have given good satisfaction.

TIME AND MODE FOR TRANSPLANTING CEDARS.

I would like some information in regard to setting cedar hedges. Can it be done in the fall,—September or October, safely; and how far apart in the row should they be set? A Subscriber.

Jericho, Vt., Aug. 30, 1871.

Remarks.—We have had the best success in transplanting evergreens late in the spring, about the time the buds are well swollen. In England the fall is considered a favorable time; but their winters are very different from ours. But at whatever season evergreens are transplanted, we think it very important that the roots should be exposed to sun or light as little as possible. Out of the ground, the roots of evergreens are almost as much out of their natural element as a fish is when out of water; and the one will die almost as soon as the other, when thus exposed. Transplanted in a rainy or cloudy day, or by night, with a good ball of earth attached, cedars might live if removed in the fall. In most soils the cedar is liable to die out near the base, and give the hedge a bad look. The distance apart of the plants should be determined, in part at least, by the height you intend the trees shall be allowed to attain. In his book on Evergreens, Mr. Hoopes recommends twelve to fifteen inches for arbor vitæ, hemlock, &c., and for pines, &c., for a large hedge or screen, three, four and more feet.

FLOWING MEADOWS.

Your correspondent F. of Franklin, Mass., wishes me to give a "chapter on my personal experience in regard to letting on water to meadows to increase their fertility." In response to which I will say that in 1864 I built a short dam and flowed a small meadow of three or four acres, letting the water remain on all winter. The ice carried the dam off in the spring, and it has not since been rebuilt. The succeeding summer I found the hay crop increased from two ox loads to five; but the quality of the hay was far inferior,—most of the high ground grasses being killed out. Since that time the crop has gradually decreased till the present year, when I have secured only the two ox loads that it usually cut before the dam was built.

My intention now is to ditch dry, plough and reseed with herdsgrass, put down a bulk head again and flow in March or the first of April, one or two weeks, when the snow is going off; the water of which, according to Dana, contains unusual richness, particularly in amount of ammonia. Then draw off dry as possible by means of the ditches before mentioned, and the quality of grass will not be injured, and the fertility will be kept up forever without top-dressing with compost or leached ashes or any other manure whatever, so long as this annual flowing and draining shall take place.

I should advise F. not to heed the warnings of his neighbors that "the land will be made sour." If such should be the case, a few bushels of slacked lime to the acre, sown broadcast, at a small cost, will be a complete remedy. But does the annual flooding of the earth by fall rains and melting snows make "the land sour?"

SALT FOR CATTLE.

Another of your correspondents has taken the ground that salt is injurious to cattle. The present summer I found a valuable ox dead in my pasture where I keep salt in a trough most of the time. The ox was perfectly well, so far as I knew, the last time I put salt there, and from appearances, he must have died soon after. Some of my neighbors think that he died from eating too much salt. But if such was the case, why did not more of the twenty-two head that were in the pasture die also? I have, however, since discarded the trough, and put down a handful for each head on the ground. Will some of the correspondents of the Farmer give an opinion, with facts, relating to the above?

Epping, N. H., 1871. M. J. Harvey.

Old Rose Bushes.—A subscriber sends the following on the management of old rose bushes to the *New York Observer:* "Never give up a choice but decaying rose bush till you have tried watering it two or three times a week with soot tea. Take soot from a chimney or stove in which wood is burned, and make a tea of it. When cold, water the rose with it. When all is used, pour boiling water a second time on the soot. The shrub will quickly send out thrifty shoots, the leaves will become large and thick, and the blossoms will be larger and more richly tinted than before. To keep plants clear of insects, syringe them with Quassia tea. Quassia chips can be obtained at an apothecary's.

A GOOD FARM AND A GOOD FARMER.

OOD farms, we find, are not always cultivated by good farmers. On such farms, the proprietors are generally enabled to make a fair living, in virtue of the generosity of the soil itself, rather than from any special skill in their cultivation or management.

During our June rambles among the farmers, it was our good fortune to find upon one of the old estates in Rockingham County, N. H., a whole-hearted, industrious and liberal farmer, owning and managing an excellent farm. There are many such, no doubt, but there are many more who are not such.

Mr. WARREN BROWN, of Hampton Falls, N. H., owns and occupies the estate upon which he exercises his skill. He is still a a young man, not having arrived at middle life. The farm contains 300 acres. Of this, 175 acres are in pasture and woodland. In salt marsh, 60 acres. In grass for mowing, 60 acres.

The stock of the farm consists of twenty-three cattle, mostly short-horns or grades of that blood; two horses; thirty-three swine, plenty of poultry and a fine flock of South-down sheep.

The buildings are a nicely-preserved and convenient old-fashioned house, which gave evidence that it had always been in careful hands; a barn 130 feet long, with an ample shed its whole length on one side for the farm-carts, wagons, rollers, &c., and on the other side sheds for hog-yards, manure, and especially as a deposit for a large amount of vegetable matter, which is converted into fertilizers for the fields.

Besides these principal buildings, there are ample wood and carriage houses, granary, and a large vinegar and boiler-house. Some 500 barrels of cider were stored in the vinegar-house last fall, a considerable portion of which he purchased.

Mr. Brown stated that his constant and persistent effort is to accumulate manure. This is his object in keeping swine. These are always supplied with muck, rich loam, and every sort of vegetable matter which they can work over and make available as a fertilizer. The droppings of the stalls are thrown into sheds, where they are worked over and mingled with each other by the swine. If the pork sells for the cost of keeping, his object is attained with regard to this branch of stock.

In addition to this source of fertilizing agents, he has purchased and used upon his own farm 8,000 bushels of leached ashes during the past ten years, and has brought into his town and sold to farmers there as much more during the same period! He styles himself "the manure man," firmly believing that profitable farming consists in getting large crops from comparatively small portions of land. As a help in this direction, he has laid about 15,000 tile! In pass ng through a large field most luxuriantly clothed with herdsgrass, two or three members of the party remarked that less than ten years ago a portion of it was full of springs, a stony quagmire, cold, sprinkled with hassocks and coarse water-grasses, and its appearance in every way worthless and disagreeable. The water from many acres above, came down upon it from the surface, and through the year was oozing out from the higher portions. This kept the lower portion continually wet, and formed a congenial home for the plants mentioned, and for the croaking and slippery animals who prefer such surroundings!

Now the ground was covered with herdsgrass just coming into bloom, and so thick as to impede our passage through it! Thanks to the drainage, the ashes and the work of the swine. He had laid stone drains, but did not think them economical. His tile drains work admirably, and when once well laid he considers the work done for many years.

Butter is made by the family. Much of the farm work is done by two pair of stalwart oxen.

He sells fifty tons of hay yearly, and thinks he will be able to sell a hundred tons annually, and at the same time keep his present amount of stock, when his practice has been continued through a few more years. That is, by the continued use of the leached ashes, in connection with heavy manuring, he will be able to double the present crops.

This, we think, he will not be able to do on most of the fields over which we passed, but

may accomplish it on lands which have not yet been much worked.

In accordance with a practice which has prevailed to a large extent over New England, he formerly broke up grass lands, manured, planted with corn and potatoes, and then seeded to grass with some kind of grain. Contrary to the commonly received opinion, he thought this course *exhausted the soil*, and was not a good preparation for the grass crop.

With these views, he ploughs in August, manures, pulverizes finely, uses leached ashes, sometimes a hundred bushels to the acre, sows the seed liberally and then rolls the land.

After all, so much depends upon the nature of the soil, that a practice which has proved highly successful on one farm might not be at all applicable on a farm immediately adjoining. Mr. Brown's farm is natural grass land; a moist, heavy loam, commonly called a granite soil. Such a soil is undoubtedly better adapted to grass than a sandy loam; and in a region where hay is in demand, may be devoted to grass more advantageously than if employed with most other crops.

On the other hand, we are inclined to think that on lighter loams a proper rotation of crops, well manured and tended, would afford more profit than by turning over the sod and reseeding at once with grass.

Two or three other things come to the aid of Mr. Brown which most of us do not enjoy. He inherited a tract of excellent land; some of it in good order; other portions had never been reclaimed. The buildings were in fair condition, and along with these a sufficient money capital, we understand, to manage the estate as he pleased. All these he has economized, and adding to them industry and skill, has probably increased the value of both.

Then he has sixty acres of salt marsh. This needs no re-seeding, ploughing or fencing. Taxes upon it are light, and the only cost of its products are the cutting, making and hauling.

What this hay is worth in the barn per ton we do not know. Perhaps half the value of the best upland hay. Some of the marshes produce a ton to the acre; but if only one-half that, there are thirty tons,—equal to the whole crop harvested on a great many of the New England farms!

These are advantages which most of us have not realized, but advantages of which he has made good use, husbanding them with ability and skill, and proving what the soil is capable of producing when generously managed.

With his fine farm, amiable family, pleasant garden and other attractive surroundings, his is a true home and the "gateway to heaven."

Broken Horn.—In reply to an inquiry by a correspondent who had replaced the shell of the horn of a heifer which had been knocked off, whether it would re-fasten and do well, Dr. Horne, of the *Western Farmer*, replies that it will not, any more than would a finger or toe nail. He says that he has treated several cases of the kind and that his method of treatment, is to procure from ten to fifteen feet of clean cotton cloth, not new cloth; let it be torn in strips of one and one-fourth inches wide, the strips carefully sewed together at the ends. Make a bowl of good common starch, as for shirt bosoms; besmear well the bandage; roll it up, and wrap the pith of the horn, from base to beyond the tip. After it is well dried, cover with a coat of tar, or pitch. Protect from further injury and leave the rest to nature, and the horn will be reproduced.

High Price of Hay.—We can recall several instances in which there was a general alarm about a scarcity of fodder in hay time, which was followed later in the season by an abundance and much lower prices; but we do not now remember a single instance in which unusual high prices thus early in the season were sustained throughout the year. These results are undoubtedly the effect of causes. In an apparent scarcity of fodder farmers save much that would not be saved in apparent plenty; they reduce their stock; perhaps small crops are more nutritive in proportion to bulk than large ones; perhaps, too, there is less difference than to our excited senses there appears to be; an unfavorable spring and summer may be followed by a favorable fall and winter, &c. Therefore, it would not surprise us if hay should prove to be more plenty later in the season than it appears to be now; nor that it should be cheaper in the winter than in the summer.

Patent Right Swindlers.—A correspondent of the *Mirror and Farmer* says that some of these swindlers have recently visited Ascutneyville, Vt., and "taken in" some of the people there. A wealthy farmer was induced to give them his note for $70. But on sober, second thought he mistrusted it was a swindle, and immediately followed them, demanding his note and three dollars for his trouble. This they concluded to do. He then told them they might leave town if they would give him ten dollars more. They forked over the money and left.

For the New England Farmer.

CAST IRON HAND CIDER MILLS.

A correspondent (S. C. Pattee,) in an article published in the FARMER last fall, makes inquiries regarding cast iron hand cider mills, and gives his experience as far as he has observed, which is so unlike anything known in this vicinity, that I am induced to offer a few remarks. He inquires first, Are they practicable for common use? Probably if they were to be used upon a farm containing large quantities of apples where a great number of barrels of cider were to be made, they might not be profitable, for the reason that much more time would be required than if made in the old fashioned mills where the power consists of horses. Their practicability consists in their adaptation to those farms where comparatively few barrels are to be made, and whereby these can be made at any season of the year, in the winter as well as in the fall; and apples assorted during the winter can be made into cider for vinegar, which otherwise would go to waste, unless fed to stock, which would be less profitable. Again the better method of using the mills is, after having ground the apples, squeeze what juice will flow without too much of an effort upon the screw, and then return the pomace to a half hogshead tub, and having thrown one or two pailfuls of water thereon, let it remain until considerably fermented, when upon being squeezed the second time, nearly every particle of juice will be extracted, and which by many is considered to be superior for vinegar to the clear juice.

He asks, secondly, Can good cider be made with them? The answer would be, emphatically, yes, fully equal if not considerably superior to that made in the usual way.

Thirdly, Is the cider unfit for use, being black and nasty, tasting of iron, generally, or is this the exception? If any such circumstances have occurred, as are related by your correspondent, they certainly are the exceptions; no such cases having occurred in this vicinity. The fact of *any unnatural* discoloration of the cider, even, in the *least* degree, is unknown here. The cider bears the same color as though made in an old fashioned wooden mill. The cider, as every one knows, takes its color somewhat from the treatment it receives in the manufacture. If the cider is pressed immediately after being ground, it will be of much lighter color, than if the pomace is allowed to stand a little time after being ground, in which case it will possess that rich dark red color that is so much admired.

One very essential benefit to be derived from the use of hand mills, consists in the opportunity of making cider of different grades; that is, of assorted apples, or poor ones. Of course, it is known to every person that if one would have *good* cider, it must be made from good apples; and if one has a hand mill he can make his cider in such quantities, and of the quality desired.

The method usually employed is, first, to place in the bottom of the tub or hoop, a layer of good clean straw, (when it is to be pressed immediately,) and then grind in the fruit until one-fourth full; then put in another layer of straw,—thus alternate until the hoop is filled. Place upon it the follower and press as hard as desired, then cast out the pomace, and so repeat the operation. In grinding fruit that is rather hard it will be found that not nearly all of the juice can be extracted, hence the necessity of a second pressing, as above indicated, from which, with the little water thrown in, nearly as much may be obtained for vinegar as from the first pressing. This product, in consequence of the small amount of water, will change to vinegar much sooner. Therefore, more cider can actually be made by the hand mill than otherwise.

Columbia, Conn., Aug., 1871. W. H. Y.

For the New England Farmer.

CARE OF FARM IMPLEMENTS.

A short time since, I called on a friend at his place of business in Boston who had just returned from the West, where he had been to look after customers, collect money, &c. I inquired of him as to business prospects of farmers where he had travelled. His reply was "bad, very bad. Limited trade and but little money." How is this? I asked. Have not crops been good and the farmers enjoyed every facility for doing a profitable business and paying their bills? "O yes, yes," was the reply; "many held their grain and cattle for a higher price, and paid as high as twenty per cent. for money they must have to use."

This, he said, however, was not the worst of their management. Every farmer has come to the conclusion that he *must* have all the improved machinery now in use in farming, and which is readily procured through agents at his door, who are so adroit in their calling that all hesitancy to buy, on the farmer's part, is soon swept away, and almost before he is aware of it, he has parted with what little cash he had towards paying for his implement and given his note for the balance. He might have got on quite well for a time with the old machine, and probably would if he had not been overpersuaded by the cunning of the dealer.

This, my friend assured me, was regarded by the storekeepers as the most serious drawback of any the farmers are subject to. The notes given are sold at a discount in the vicinity where the maker of them is known, and as soon as they become due, return to plague him with their unwelcome presence.

This part of the story is bad enough, but not the worst. The machines and implements for which the money and notes were given are unhoused, and very often remain in the fields

where they were last used, or gathered around the farm-house, liable to be damaged by cattle or the cattle to be damaged by them, and always subject to the damage of the weather.

To us, here in New England, no adequate idea can be formed of the great injury and decay consequent to tools thus exposed to the changing elements. They are warped by the sun, rotted by the wet, and soon used up. A bad feature of this condition of things is, the neglect to do the next best thing to housing tools by those who think they cannot afford house-room for them. He knows, and all know, that paint, oil and varnish are protectors and preservers of wood and iron. This fact is too generally ignored by farmers. There are some farmers who invariably paint all their carts, wagons and other implements that require it once a year, even if under cover when not in use, and think it pays well; of which there cannot be any doubt. How much more important, then, must it be for those which are not housed?

Carefully conducted experiments have demonstrated the fact that seasoned wood well *saturated with oil* when put together will not shrink in the dryest weather. Wheels have been known to run many years, even to wearing out the tires, without once requiring the tires to be reset. Thousands of dollars might be saved annually in blacksmiths' bills, especially such seasons as the past, if this practice was adopted. It is now known by some that crude petroleum on even *old* wheels will produce like benefit. From the experience I have had in using it I am satisfied of its utility, and can recommend its use on all woodwork subject to exposure to the weather. It is of small cost, and any one can apply it. Let our western farmers that have no place to store their tools use it freely, and I will assure them that they will find their tools will last much longer than they do without it. K. O.

August, 1871.

LOW PRICES FOR CATTLE.

In some remarks on the present market value of cattle by the editor of the *National Live Stock Journal*, the idea is advanced that the fluctuations in the value of stock have never been as violent as in that of the products of other industries; that taking a series of years together, the margin of profit in raising live stock is far greater than in the production of any other commodity, and that the general course of market values are more favorable to breeders than to any other class of producers. These remarks are made with reference to western breeders, but we are not sure that they will not be verified by a reference to the history of the various industries of the East. We have referred to this article, however, for the purpose of copying the closing paragraphs:—

We are inclined to think that, no matter how unpleasant it may seem, an occasional low range of prices is not altogether without compensating advantages. Where sales are quick, pay prompt, and profits large, the inducements for studying the correct theories of breeding, and the most economical mode of feeding, are, in the case of very many individuals, too small to justify in their eyes the labor and trouble involved. They feel that they are making plenty of money as it is, and are not inclined to make extra exertion in order to secure more substantial returns. Lower prices and smaller profits, however, open the eyes of all to the necessity of systematic and scientific operations, and breeders of all degrees summon all their resources to the task of discerning how a better article can be produced for less money.

We appreciate that, in many cases, the present range of prices is not satisfactory. But this is one of the ups and downs of a world where fortunes are continually shifting. The exigency demands prudence and study in order to utilize, as far as possible, the conditions by which it is attended, and a little patience to wait for the next wave to tide matters back to their old levels.

BEAUTIES OF COUNTRY HOMES.

"A house on a hill with no trees around it looks cheerless and unhomelike. Have grounds about the dwelling. Tear away the fences, they cost money and are useless. I mean the fences shutting the house up as if there were danger of its running away. Let there be not less than an acre of door-yard, ten will be better. Make a rich lawn of this and cut the grass. It can be no waste, but it will be a thing of beauty and 'a joy forever.' There will not be any loss to be tasteful; nature and beauty are synonyms; good taste and economy can therefore be made handmaids to each other. Set out fruit-trees in this enclosure and dig around them with a spade each year, and top dress the whole, and the trees will grow finely and the grass will grow luxuriantly, and the house will grow beautiful, the children will grow contented, the fathers and mothers as they grow old will grow happy, the neighbors will grow to emulate and to excel, the township will grow attractive, and the young men and the young women will grow up to think and to feel that there is no place after all like home, 'Sweet Home.'"

That, Mr. Editor, is what I call nonsense. It was written by Mr. F. D. Curtis, of Saratoga County, N. Y. I have read it in at least four newspapers. If I get particularly tired, and sit down to rest and read a little, I must everlastingly blunder on to that same article, and I am sick of it. That it sounds pretty, I don't deny; but it is all gas; that's why I have concluded to break through the bars of modesty and give your readers my views of the case.

If our friend above quoted had been obliged to get a home and *pay* for it, as the most of us must, we shouldn't catch him spending his time making up such stuff for the papers; he would spend his spare moments in pulling weeds out of his corn, or increasing his compost heap; or, if he set himself down in the

house, it would be to help his wife tend the babies, or pick over beans, or *anything* but to tell other folks how to make a pleasant "door-yard." Ten acres for a dooryard! No doubt, if a fellow had plenty of capital, and no end of income, to buy all the desirable and ornamental things, with hundreds of acres of virgin soil lying around loose, and plenty of help to run this fabulous farm, it would be a great comfort to have a ten-acre yard, or "rich lawn," with the "fence" all "torn away," so that it can "run away" just as much as it likes to, and then in this *enclosure (?)* a splendiferous lot of fruit-trees, from apple and pear down to the small fruits. and no curculios to bother; but let this same chap buy a hundred-acre farm for $3,000, and mortgage it for two-thirds the purchase money, and then attempt to support a growing family and pay his interest and enough of the principal to drive away the probabilities of speedy foreclosure, striving as he goes along to stock the farm and get tools enough of his own to cultivate it, and at the same time endeavoring to appear in society respectably, and you will find him singing a different song from that implied in the poetic strain quoted. He will find that these "things of beauty" and "joys forever," if they are "no waste," will go but a mighty little way toward a barrel of flour for his family, or a new pique dress for his wife; neither will they buy school-books nor pay tuition; while, if he leaves his corn and potatoes for beautifying his "rich lawn," he will learn that, though "good taste and economy" are "handmaids to each other," they will in this particular case do but confounded little for the pork barrel.

The "home, sweet home" part is good: I have great confidence in *that*. Our Mr. C. would have us believe that all that is necessary to do to obtain it is to lay out a ten-acre door-yard, and "top dress it and cut the grass," and then sit in it, *i. e.*, the lawn, all day and grin, and see the "children grow contented and the "mothers grow old," and the "neighbors emulate"! That part is all fictitious; but few of us are smart enough to get good, pleasant homes without downright hard work, and lots of it. We can't spend much time sitting in the shade while the weeds grow, nor throw out a great amount of money for "joys forever," till that mortgage is paid up.

Perhaps the painter of this glowing picture is not like the majority of the gang of writers on the beauties of country homes; I hope he isn't. I know some of them, and have visited *their* "country homes," and wondered how they managed to live among the rubbish that accumulates and the thistles and brushes that grow while they are getting up their voluptuous essays; and above all, I have questioned how they could expect their wives and children to inhabit such a place, and call it "home, sweet home," unless consoled by the thought that husband and pa is smart and can write for the papers.—*Vermont Journal and Watchman.*

CROSSING MERINOS AND COTSWOLDS.

We have published several accounts of favorable experiments with crossing the merino with cotswolds. The following from the *Western Rural* presents a different view of the subject:—

In the fall of 1867, we bred fifty picked merino ewes to an imported Cotswold ram. The ewes were selected from a large flock, and included only such as from their size and form seemed best adapted to bearing large lambs. Whether from this precaution or not we can't say, but no unusual inconvenience was experienced by the ewes in yeaning. The lambs when dropped looked fine and healthy, and for a week or two grew well; but from that time forward seemed to require more nourishment than their fine-wooled mothers were able to furnish them; and notwithstanding the pasture was good—though probably not what might be called first-rate—at weaning time we had lost a third of the lambs, and those that were still living were in poor condition, and most of them died during the fall.

As this was an experiment to test the prudence and profit of a cross that had been often recommended by gentlemen who handle live stock mostly "on paper," no more attention was given the mother or lambs than was bestowed upon the remainder of the flock that had been bred to merino rams. The experiment with us was not a success, though possibly under different treatment it might have been made such.

The conclusions arrived at were about these: that the ewes of the cotswolds and other mutton breeds are liberal milkers, much more so than the merinos; that nature is no more inconsistent with herself here than elsewhere, consequently this increased supply is to meet the requirements of the lamb whose destiny it is to mature at an earlier age than his fine-wooled cousin; hence the half-blood offspring of the cross we had made required more nourishment than the mother was able to furnish. No stock breeder needs to be told that a lamb, or any other young animal, stinted during the first three months of its existence, can only with difficulty be afterward forced to mediocrity, and never to the highest standard of perfection in its particular type. Assuming, then, the wool to be a secondary consideration, and that the object of crossing a larger breed upon the merino is to increase the size and render more valuable for market purposes the progeny of the latter, the effort defeats itself when such increase in size can only be secured by an increased cost in the items of artificial feed and extra care and nursing.

Without this additional assistance, our experience is that the half-blood cotswold lamb suckling a merino mother, is not worth at weaning time as much for either mutton or wool as a full-blood merino lamb that has had the same amount of food and attention. In view of this fact, we cannot recommend the cross, and would only justify it when the object is to get the entire flock into market in the soonest possible time, without regard to the expense of feeding.

WHY DON'T BEES SWARM?

There are many causes for bees not swarming, but the two following are the most common. When circumstances are favorable, and there are many bees in the hive, and yet they do not swarm, it is usually some fault of the queen. The stocks of some queens seem more instinctively endowed with the swarming propensity than others; some seem almost wholly destitute of it, while others will hurry off before they have numbers sufficient to warrant such a move. It is quite common for a stock to utterly refuse to cast a swarm for three or four years in succession, or during the life of a queen, but when she dies of old age, and a young one takes her place, they almost always become suddenly prosperous and equal to any. If in movable comb-hives, destroy the old queen early in June, and either give them a new one or allow them to rear one for themselves, and you will not generally have cause to complain of them after. The Creator has given bees the swarming propensity as a means of continuing their species, and when all goes well with them there is but little fear but what they will swarm enough.

The weather, too, has much to do with the issue of first swarms, and a sudden change may prevent them swarming for a whole season. First swarms never issue unless flowers are producing honey abundantly, and the weather has everything to do with this. A partial failure of honey frequently frightens bees so much as to cause them to destroy all preparations for swarming, and abandon the idea entirely, when perhaps the next day may be favorable, and they will begin again. It takes about eight days for them to get the oldest queen cells capped over from the time the eggs are laid in it, so their arrangements are complete again in about eight days. July 2d I had about a dozen stocks with more or less preparation for swarming. The morning of that day opened well, and several swarms that were ready to issue commenced to fill their cases with honey preparatory to their departure (for they always carry provisions with them), but at about ten o'clock there came up a smart east wind, and in less than half an hour the bees stopped work entirely; none swarmed that day, and at night when I opened the hives to ascertain the cause, I found that three out of the lot had destroyed their queen cells and given up the idea, while others were waiting for better times. The next day was favorable, and those that were ready swarmed, while those that destroyed the cells commenced again and swarmed on the 10th.—*G. W. P. Gerald, in Maine Farmer.*

From the Prairie Farmer.

IN MY GARDEN.

BY MRS. H. E. G. AREY.

In my garden—in my garden, with the lilies of Japan,
With the waxen-lipped tuberoses from the plains of Hindostan,
Shadowed by their princely beauty, but to me more sweet than these,
Bloom the tender-eyed blue violets, and the wood anemones,
That I fondled in my childhood, underneath the forest trees.

And the passers lounging idly down the borders, fail to see,
'Mid the toss of gorgeous flower-sprays, that which so delighteth me.
But sometimes a dreamer cometh, sauntering down the sweet defile,
Heeding scarce my pinks and roses; but I see him pause and smile
Where the pale-faced blossoms wave their censers by the garden aisle.

And I know his ear has caught the story that they tell to me,
And his spirit bows enraptured at a shrine no eye can see,
There are visions trooping round him, of some long forgotten hour:
There the past's dead marbles quicken into life with magic power,
For Oblivion's cells are opened by the fragrance of a flower.

RAISING SEEDS.

From a description of the seed-raising farm of Edwin S. Hayward of Brighton, N. Y., near Rochester, written by the editor of the *American Rural Home*, we condense the following:—

Beets for Seed.

Of these he has twenty acres, and we never saw a crop look finer. The varieties are long blood, blood turnip, Bassano and long red mangel wurtzel. He has grown for many years, and to the entire satisfaction of purchasers, but not to his own, from common stock, but last year he threw it up entirely, and substituted French stock all through, at a cost of over $1000. It takes two years to raise a crop of seed. The first year the roots are grown. For this purpose the seed is sown with a drill about the 15th of June, on ridges two feet apart. They are sown thus late, and rather thick, as the object is to get small, healthy roots rather than large ones. Small beets are just as good to raise seeds from, and the storage and handling costs much less. In the fall they are pulled and topped, care being taken not to cut so close as to injure the crown. They are then carted and pitted in the field, where they are to be set in the spring,

the pits being distributed around the field so that they can be taken from the pits to the drill in which they are to be set, without the aid of a team. This saves much labor, as it takes about 100 bushels to the acre. Great care is taken while the roots are being handled to see that they are true. If a turnip beet grows too long, or a long beet too short, it is discarded. They are set in rows three and a half feet one way, and from one and-a-half to two feet the other, according to habit of growth. All horse work must be done by the 20th of June, as there is not room to get through later than that without damage. If weeds appear after this they are pulled out When the seed is ripe enough the crop is cut at the root, and laid in small bunches across the ridges, where it remains two or three days to dry. It is then drawn to the barn and threshed with an ordinary threshing machine, and cleaned with a fanning mill. From two to three tons are threshed and cleaned in a day. It is afterwards spread and dried, and has an extra cleaning for market. A good crop from the French stock is 1500 pounds an acre. His crop of all seeds is always contracted before planting, so that he knows just how much to plant, and where to put it when harvested. There is no safety of doing otherwise in seed growing. The contract price is twenty cents a pound or $400 a ton.

Onions.

The seed is sown in drills two feet apart, and quite thick in the drill on rich ground, top-dressed with fine manure after ploughing. The onions should be ripe in August, when they are pulled and thoroughly cured on the ground. They are set out in rows three and a-half feet apart, and nearly touching each other in the row, from the 15th of October to the 15th of November. After setting, a furrow is turned from each side on to the rows with a small plough, leaving the onions in the ridge. It takes about 100 bushels to set an acre. The White Globe and Danvers being more tender varieties than the others, are not set till spring. They are kept under cover until frozen hard, when they are put in barrels and kept frozen during the winter. If allowed to thaw out before spring, it damages them very much. If the freezing and thawing is repeated, it spoils them entirely. The yield is from 400 to 600 pounds, and the price from 75 cents to $1.50 a pound.

Lettuce.

Fifteen acres of lettuce in the blow, standing over two feet high, in rows two and a-half feet apart, and as straight as a line across the field, is not a common sight, but one that can be seen every year on Mr. Hayward's farm. The ground for this crop is prepared as early as it will work well in the spring. The seed is sown on ridges, and the plants thinned when they have attained suitable size, from three to twelve inches in the rows, according to habit of growth. The yield, if anything, is from 300 to 400 pounds, which sells for 75 cents. But this is a ticklish crop, and one which causes the grower a great deal of anxiety. It is one of those "doubtful things" that "are mighty uncertain." It may promise a splendid crop until a few days before cutting time, and then suddenly blight, and not give a pound of seed. The indications of blight are first seen in the leaves next to the ground, which turn black. When this comes, hope goes. There is no remedy. The varieties now growing are Early Curled Silesian, Boston Curl, Frankfort, Ferry's Prize Head, Victoria Cabbage, Royal Cabbage, and Drumhead.

Cabbage.

The seed for plants is sown from the 1st to the 20th of July, and set out in about four weeks. These may be grown on ground from which some of the more early maturing crops have been taken. With cabbage, as with the beets and onions, it is an object to get a small but healthy growth; large ones would be altogether too bulky. They are taken up in the fall and put in trenches across the field, in which they are to be set in the spring. A light covering of dirt is given them. In the spring they are set eighteen inches apart in rows three and a-half feet from each other. The whole cabbage is put out, being set in the ground up to the head. It is cut as soon as the seed turns black in the pods, which is from the 20th to the 25 of July. The yield is from 200 to 400 pounds per acre. The varieties under culture are the Marblehead Drumhead, Stone Mason Drumhead, American Drumhead, Premium Flat Dutch, Early Winnigstadt and Early Wakefield.

Sweet Corn.

The growing of sweet corn is made a specialty, and the crops, thirteen acres in all, on the two farms, were looking very fine. All the choice and new varieties, early and late, are found in his list, and the seed is cured with great care.

Squashes.

The plots devoted to squashes were well worth looking at, and we have seldom seen anything handsomer than the White Scollops, which had nearly attained their full size. These, with the Summer Golden Crook Necks, are planted four feet apart each way, and the Hubbard six feet. Unwearied pains is taken to keep the seed true and pure. When the frost kills the vines, the squashes are split open with a hatchet, and the insides dug out and put in barrels, where they remain until fermentation takes place, when they are taken to the brook and washed.

—The *California Farmer* of July 27, notices the arrival in San Francisco of Commissioner Capron, on his way to Japan, under his $20,000 per year commission to that country.

HONEY LOCUST OR THREE-THORNED ACACIA.

This tree in Pennsylvania and in the more Southern States is highly prized for the beauty of its foliage, small flowers, and long pods which contain polished seeds invested in a sweetish pulp, which, fermented, is made into a sort of beer. It has been employed in making hedges, and with good success. The sharp spines or thorns with which the body and branches are covered are found effectual in keeping off such animals as would intrude on the enclosed grounds.

Mr. Elliott says in his *Lawn and Shade Trees*, that the Honey Locust, is a tree that does not sucker; its branches are strong, rarely if ever breaking under the strongest gales of wind; assumes to itself the privilege of growing in many shapes, from that of a tall, branching, and lofty character, to one of almost horizontal form. In foliage it is light and open, feathery, and together with its wood studded with long pointed thorns, and seed pods of five or six inches in length, which hang on all winter, create for it a tree very desirable in the composition of groups, and also for roadsides or streets where only a partial, not deep, shade is desirable.

INDUSTRIAL SCIENCE.

The attention of the reader is especially called to an article in another column in relation to the *Worcester County Free Institute of Industrial Science*. It is from the pen of our highly valued correspondent, Mr. George B. Emerson, author of the charming work on the "Trees and Shrubs Growing Naturally in the Forests of Massachusetts." He has long given character to these columns by the practical and judicious views in which he treats all subjects which he discusses. While grateful for his former contributions, we hope they may be no less frequent in the future.

Our own careful observation through many years confirms the views of our correspondent in relation to the desire among young people of both sexes to *avoid manual labor*. The idea has taken fast hold of them that it is disgraceful, the teachings of St. Paul and the necessities of the world, to the contrary notwithstanding. It is a baleful idea, crippling body and soul, sapping the foundations of our social existence and contravening the express injunctions of Holy Writ. It is a mean robbery to eat the bread that another labors to

produce, if we can reasonably produce it ourselves.

It would be a woful time among lazy people and those that assume that their precious flesh and bones would be contaminated by useful toil, if we had the power of the "Grand Turk" for a single day. The decree should go forth at once, "THAT IF ANY WOULD NOT WORK, NEITHER SHOULD HE EAT." All should work in some form. With the head to teach others, with the hands in a thousand ways to alleviate human toil, or even by the heels to teach the child how to walk easily and gracefully! All should be producers in some form, as well as consumers. Then the great disparity in society would be somewhat modified; there would be less crime, less suffering, and eventually a higher civilization. JOHN RUSKIN says that "it is only by labor that thought can be made healthy, and only by thought that labor can be made happy." This is true; and much of the sickly sentimentalism which disgraces our literature springs from the pernicious idea that it is degrading to labor in cultivating the soil, in the mechanic arts, or in any of the rough but manly pursuits that the world so greatly needs.

Thanks to the founders of this new institution, and to our correspondent for calling attention in these columns to its noble work.

For the New England Farmer.

WORCESTER CO. FREE INSTITUTE OF INDUSTRIAL SCIENCE.

A very satisfactory examination of this institute took place on the 26th of July, followed by equally satisfactory exercises of the graduating class. The fifteen young gentlemen who composed this class had written long essays, each upon some one of the subjects to which they had been devoting their attention during the three years of their course. These were long, elaborate, well-written papers, showing how thoroughly and faithfully they had been working. It was impossible to hear them all, but enough of each was read to give an idea of its ability and character.

At the same time, in other parts of the principal building, full samples of the work done in the several departments of drawing were exhibited, and many records of their work in geometry and other branches; and, in the Washburn workshop, pupils were seen at work, —giving abundant evidence of their skill in the use of tools.

The great and precious distinction of this institute is that it offers opportunities and inducements for the formation or continuance of habits of manual labor; that it is the Institute of *Industrial Science*. A great and threatening evil in the States of New England is the prevalence of a desire among boys and young men to avoid manual labor. This is a great, sometimes a fatal mistake, physically, morally and economically. A boy cannot promise to attain to perfect manhood whose bodily powers are not accustomed to vigorous exercise. And this habit of exercise ought to begin early and be faithfully continued through youth and early manhood. By this process all the powers of the body will be fully developed, and preparation will be made for a vigorous manhood; and with this and by virtue of this exercise, there may be perfect health of body and mind. In a body thus healthily strengthened, and with habits of ready, easy and skilful labor, the mind will be in the best condition to act, and the moral nature may be kept in a sound and healthful state. Without these habits and powers there will be danger of intemperance and excess, and when a place not requiring bodily exertion cannot be found, there will be temptation to violation of the laws of the land. This is not a fanciful theory; would that it were. But the records of the prisons in New England and the other Northern States show that nearly all the young men confined in them are there for want of a trade and of habits of honest industry.

There are undoubtedly many operations and processes in the arts and in machinery which require only intelligent supervision, and there are many places which do not seem to require manual labor. But the candidates for these situations are already more numerous than the places, and are becoming more numerous every year. Such institutions as the Technological Institute in Boston, the School of Arts at Hanover, N. H., the State Agricultural School, and this at Worcester, are becoming more numerous, and are yearly attracting more pupils, not only in New England, but throughout the country. Unless habits of manual labor accompany the knowledge of useful arts and of the applications of science, an education in one of these institutions may be a misfortune to those who secure it. A young man who, for three or four years of his youth, discontinues the energetic use of his muscles, will resume that use with repugnance and extreme difficutly, which may be ruinous to him. That provision of this institution, therefore, which requires or allows some hours daily of hard work is to be especially commended. It is the great distinction of the institute, showing that it was founded by men who had a regard for the permanent welfare of the pupils.

It will doubtless be said that young men may be qualified here to superintend manual operations, without the necessity of working themselves. That is really a mistake. He only is *perfectly* fit to superintend and conduct the work of others who can take hold of the tool that is used and wield it himself with more

skill and vigor than any of the fellows under him. Whoever has long and carefully observed the operations of a farm, would not be willing to employ a man to take charge of one, whether small or large, who could not take up any tool used and *show* better than any one else how to use it. And so it must be, in at least a certain degree, in all other occupations. On a farm, "Come boys," is much the safest order that can be given. I do not believe that one can *thoroughly* understand an operation which he cannot go through with himself. All the great discoveries of late years in chemistry, in mechanics, in physics, have been made by assiduous and persevering workers, by men long accustomed to handiwork. It is only a vigorous mind, in a healthy, vigorous body, under the guidance of a conscientious spirit, which can be relied upon for energetic and effective management.

It is only under the guidance of leaders of integrity, character, educated intelligence and vigorous, manly energy, that operations of war or peace can be carried on so as to command success. The men engaged in the work must be not only able to respect their officers for their knowledge and intelligence, to rely upon them for their justice and integrity, but to look up to them as men who can do and have done the work themselves, and thus understand all its difficulties and can sympathize with those doing it. Everything indicates that the time is coming when the employer and the employed are to be no longer considered as men of different classes and with different rights. There must be a completely good understanding between them as friends working together for the same ends. G. B. E.

For the New England Farmer.

GLOOMY POSPECT IN KENNEBEC, MAINE.

"O, the grasshoppers! the grasshoppers!" is the universal cry of the Kennebec farmers. I trust they may be excused for some grumbling and some foreboding, when we take into consideration the facts that the drought of 1870 cut the hay crop down at least one-third; that all the surplus of all kinds of grain was consumed to get the stock through the winter, so that the spring of 1871 found us completely destitute of all kinds of feed; that the drought of the present season cut our hay down nearly one-half from last year; and that after all this, the grasshoppers have eaten our grain, many of our potatoes, our gardens, including fruit trees together with the fruit, and in some cases the bark, leaving us nothing to depend upon but our corn; and now, as if to give a finishing stroke to both our crops and our patience, they have "gone for" the corn, and there is every prospect of their completely destroying it.

We are now found with too much stock by half, worth next to nothing, and from the scarcity of feed, so thin as to be unsalable; with probably the smallest amount of dairy products for twenty years; with a very light crop of apples, and with hired labor and taxes to be paid from the hard earnings of past years. Taking the whole thing into consideration the prospect is for the coming winter anything but flattering.

Now, what shall we do? It is no use to whine. Grumbling never cured a dog of a sore head, nor ever will. The old county of Kennebec is to be cultivated and improved by somebody in the future, as in the past. It has hitherto afforded us a good living, and generally a small balance on the right side of the ledger, at the close of the year. Now, instead of desponding, or borrowing trouble, or emigrating, let us occupy the present autumn in preparing for the campaign of next year. Clean up the swales; clear off the rocks; dig out the muck; replenish the hog-pens and stock yards,—do it often,—and plough or fork it over once or twice each month or oftener. Economize every available source of fertility upon your own premises, and buy as your means or opportunities allow. We must expect a short crop of hay for a few years; but instead of being discouraged at this, let it rather be an incentive to greater efforts in other directions to supply the deficiency. Prepare for next year, and let the mistakes and failures of the past serve as warnings for the future.

The scourge that has visited us this year, if it serves no other purpose, ought to remind us that after all our own efforts, we are still dependent upon a vastly higher power that we be permitted to reap the fruit of our labors.

D. H. Thing.

Mt. Vernon, Me., Aug. 10, 1871.

For the New England Farmer.

HOW TO RAISE LARGE CROPS OF HAY.

From different parts of New England we hear a great deal about the short hay crop this year, and, indeed, we hear it every year among a certain class of slack farmers, who wear their fathers' old shoes, walk in the same old footsteps and cling to the same old ideas. There has been thousands of acres of grass cut this year in New England that will not average one half ton per acre. The farmer that pays $2 per day for help in haying cannot afford to go on in this way.

I do not wish to find fault with farmers, but would like to tell them something. It is no secret; they can in turn tell others—that is, how easy it is to have a bountiful hay crop; to have their barns well filled; their cattle fat and sleek—always ready for sale; their debts paid, and consequently, their sleep sweet and undisturbed.

Farmers, as a class, work too much and think too little. They try to mow over too much land, without having it in a suitable con-

dition. They start wrong at the beginning. They manure very lightly, sow on a small amount of seed and leave the surface rough, the stones lying broadcast all over the surface, and feed the grass close in the spring because they did not have hay enough the previous year and no money to buy with. Hence, the the cattle were so poor that they had to recruit on the grass or they would die.

Now, the farmer who has long practiced this way can turn over a new leaf if he will try. In the first place, don't be too fast. Nothing is ever gained by hurrying. Don't expect to do everything at once, but be patient and persevering and all will come right in due time. In the first place, begin with a small piece,—perhaps an acre, more or less; as much as can be attended to properly —spare no pains to get it just right; seed it well—don't be stingy in this part; make it smooth; pick up the stones, and get it ready for mowing. And when you have done this, don't ever let it run out, but compel it to cut a little more each year than the previous one, if possible.

This is very easily accomplished by top-dressing. I do not mean, wait until it is all run out; this is a hard way; it is like letting a horse get so poor that he can hardly stand before giving him any grain—it is almost a hopeless task. The true and proper way is to top-dress while the land is yet in good condition. This is the way to keep the wheel rolling. A little grass seed can be sprinkled on once in two or three years, just before top-dressing, which will cause the grass to spring up fresh, like a new stocked piece. Land treated in this way need never be ploughed after the first start; but if it is ploughed, a nice thick turf is turned over, which decomposes and is as good for all crops as a heavy coat of manure.

I am making some experiments on different materials for top-dressing my fields. I am satisfied that it need not be more than one-fourth barn-yard manure composted with three-fourths of something else. When I become settled on that point you may hear from me again. J.

Morristown, Vt., Aug, 10, 1871.

COST OF WEEDS.

What I have on the brain is *weeds*. Some people think, that with modern agricultural implements, and the vast extent of fertile land in the United States, we shall produce so much more grain, and meat and wool than can possibly be consumed by our population, that prices will fall so low that there will be no profit in farming. Were it not for weeds and insects, such probably would be the case. My own farm and the Deacon's are overrun with weeds. We are fighting them to the extent of our ability, and are meeting with gratifying success. Our farms are becoming cleaner and cleaner every year, but even yet the weeds cost us more than all other taxes,—town, county, State and national—direct and indirect, combined. I do not mean that the labor of destroying them costs so much, but the weeds that escape damage our crops to such an extent that we lose half our profits. You must recollect that the actual profits of farming, after deducting the interest on capital, the cost of labor (our own or others'), the wear and tear of implements, &c., are exceedingly small. I know of comparatively few farms where, after making these deductions, the actual profits are more than five dollars per acre. On the other hand, I know of scores of farms where, at least on some fields, the weeds damage the crops ten dollars per acre. And, depend upon it, no farmer can be really successful until he makes an earnest, persevering effort to clean his land. It is fortunate for us that the means used to accomplish this object will do much towards enriching the soil.—*J. Harris, in Am. Agriculturist.*

AGRICULTURAL ITEMS.

—Candidates for admission to the Massachusetts Agricultural College should appear at Amherst, Thursday, at 9 A. M., August 31.

—A Maine farmer collects a bushel of grasshoppers daily for his hogs. Scalded, they make a soup that the swine swallow with a relish.

—The University of Vermont decides to admit women to its privileges, on terms to be fixed by the Faculty. The Waterville, Me., College has decided to do the same thing.

—The Doniphan (Kan.) *Democrat* says: "A farmer in Jackson Co., Mo., after cutting his wheat, broke up the ground and planted it in corn; and his prospects are good for a fair crop of the latter."

—It is stated that trees cut in summer and allowed to lie until the leaves dry, will have the sap extracted by the foliage, and the timber thus treated is very durable.

—A farmer near Lewiston, Me., lately sold thirty tons of hay for $30 a ton, and thus pocketed at once $900! There is quite a panic in that vicinity about hay, and some people predict that it will sell for $40 a ton yet.

—A Western paper says:—The harvest of human limbs by reapers in Iowa this year, is the most tremendous one ever known. We have tallied for every separate one reported in our exchanges, and the number is twenty-three."

—The contract for the erection of the main building of the Ohio Agricultural College has been let at $112,480. A park of not less than forty acres is to be laid out. The building is located very near Columbus.

—The *Prairie Farmer* says, our last quotations for pork was $14 per barrel; at this time last year it was quick at $30. Corn then was worth 93

cents per bushel, now it is hard to dispose of it for 50 cents, and the market has a decidedly downward tendency. Now oats are sold at 40 cents, then they were worth 52 cents. Rye is worth about 57 cents against 85 cents last year. One year ago cheese was 13 cents, now 9 cents a pound.

—The *Western Rural* in speaking of the Colorado potato bug says there is much encouragement in the fact that the persistent fight which has been kept up against them has been so far successful that their inroads will not seriously affect the potato crop this season at the West.

—A correspondent of the *Western Rural* says that about a common shot-gun charge of gun-powder in half a pint of cider vinegar is a remedy for blackleg in calves. In one case, after a calf got so bad it could not stand he gave it three doses in an hour, and it cured it.

—A writer in the Cincinnati *Gazette* says that two years ago he applied fresh hog manure mixed with corn cobs, and put a wheelbarrow full around each young apple tree which had been set out about five or six years. The application resulted in the death of several nice young trees, the bark being burned or scalded just above ground.

—A farmer named Joseph Marquis, living near Colfax, Iowa, was sun-struck recently. While suffering from the attack and unable to leave his bed, another misfortune stared him in the face, to wit, the loss of his ripening grain. Twenty of his neighbors, however, knowing his situation, met on his farm, cut and stacked his grain, and did other necessary work about the place.

—It was predicted a year since, by those who pretended to know all about it, that the 300 additional woolen mills built within the last few years in the Northwestern States, would before this be standing still, as manufacturing in their specialty would be overdone and unprofitable. But, on the contrary, the manufacturers of all classes of woolen goods give an encouraging report.

—The *Western Rural* says the entire clip from Mr. Loomis' fine flock of Cotswolds was taken by the manufacturers of chignons, to be employed in the manufacture of those adjuncts of the modern female toilet. Courage, ye long wool growers! A single chignon for each woman in the United States, of ordinary size, will require for their construction double the amount of long wool produced last year in the whole country.

—The *Southern Farmer* says that a teaspoonful of fine salt or of horse radish in a pan of milk will keep it sweet for several days. Milk can be kept a year or more as sweet as when taken from the cow by the following method: procure bottles, and as they are filled, immediately cork them well and fasten the cork with pack thread or wire. Then spread a little straw in the bottom of a boiler on which place the bottles with straw between them until the boiler contains a sufficient quantity. Fill it up with cold water, and as soon as it begins to boil draw the fire and let the whole gradually cool. When quite cold take out the bottles and pack them in sawdust in baskets, and stow them away in the coolest part of the house.

—M. L. Dunlap's idea of planting forest trees is that they must be closely planted, in order to make proper upward growth, and will need to be thinned out, year after year, according to the rapidity of growth. About three thousand trees to the acre will answer a good purpose. This will make them about four feet each way. Some planters prefer three feet, and begin to thin out in five or six years. The wood that is obtained in thinning will more than pay for the extra plants and labor.

—The oldest tree on record in Europe, is asserted to be the cypress of Somma, in Lombardy, Italy. This tree is believed to have been in existence at the time of Julius Cæsar, forty-two years before Christ, and is therefore 1911 years old. It is 106 feet in height, and 20 feet in circumference at one foot from the ground. Napoleon, when laying down his plan for the great road over the Simplon, diverged from a straight line to avoid injuring this tree.

—The oldest of all rose-bushes is said to be one which is trained upon one side of the cathedral of Hildesheim, in Germany. The root is buried under the crypt, below the choir. The stem is a foot thick, and half a dozen branches nearly cover the eastern side of the church, bearing countless flowers in summer. Its age is unknown, but documents exist which prove that the Bishop Hezilo, nearly a thousand years ago, protected it by a stone roof, which is still extant.

—An artificial whirlwind blew at Glen's Falls, New York, a few days ago; it was caused by a farmer, who, wishing to burn a fallow of about fifteen or twenty acres, ignited the brush at several places at the outer edge. The flames rushed towards the centre and assumed a rotary motion, which increased in velocity till a terrific whirlwind was formed, which tore up small trees, root and branch, and frightened everybody who witnessed it. A column of smoke rose to so great a height that it was visible for many miles, and a noise as loud as thunder accompanied this singular phenomenon.

—The *Practical Farmer* says that in Pennsylvania there is rather a prejudice against Orchard grass, chiefly owing to its growing in bunches and rather coarse stem and leaf. These may be obviated by thick sowing—not less than two bushels to the acre. It ripens early, and for this reason would make a good mixture with clover. We know dairymen who value it highly both for hay and pasture. Rapid growth, after *frequent and close* cropping or cutting, is the speciality of Orchard grass. We do not consider it adapted for thin land or soils worn out by bad farming.

—The following method of storing potatoes, recommended by Dr. F. Moigno, is a simple and sure way of preserving them from rot. When mature,

the potatoes are dug and allowed to dry, and are then put into pits that are lined with straw. As they are deposited in the pit, either charcoal powder, gypsum, or the ashes of coal or wood, should be freely scattered among them, in quantity sufficient to fill up all interstices. They should then be protected from the action of direct sunlight, and after a few days, covered with two, or what is better, four feet of soil; care being taken that the ground about the pits is effectually drained.

EXTRACTS AND REPLIES.

CHRYSALIS OF BUTTERFLIES.

I send you something I cannot find a name for. Please tell me what they are. I found them both on a stalk of caraway. J. E. C.

Oxford, N. H., Aug., 1871.

REMARKS.—Our very small stock of entomological knowledge enabled us to recognize the two "somethings," which came safely to hand in your little pill box, as the chrysalids of two different kinds of butterflies. But not being able to decide what kind of butterfly either of the cocoons contained, we submitted them to Prof. Sanborn of the Boston Society of Natural History, who very kindly examined them and furnished the following answer to your inquiry:—

MESSRS. R. P. EATON & CO.:—*Sirs*,—The specimen with gold spots on a bluish ground is the chrysalis of *Danais archippus* Fabr. which is described but not figured on page 280 of Harris's Treatise, (edition of 1862); this I presume you have at hand.

The other, greyish and green, is the chrysalis of *Papilio asterias* Linn. which species is fairly illustrated on Plate IV. figures 4, 5, 6 and 7 of the work previously referred to. FRANCIS G. SANBORN.

Boston, Mass., Aug. 11, 1871.

DANAIS ARCHIPPUS.

With Prof. Sanborn's help we were enabled to find in Mr. Harris's book a description of the specimen with a string of gold beads around one end of its bluish case and gold spots on other parts,—one of the handsomest chrysalids we ever saw. The spots and the necklace were as bright as burnished gold. We also find figures of the caterpillar, chrysalis and butterfly, in the *American Entomologist*, Sept., 1868, pages 28 and 29. The colors of the caterpillar are black, white and yellow, banded, and is full two inches long; the butterfly is most beautifully ornamented with orange, red and black, and spreads its wings about four inches. They sometimes congregate in large numbers. They live on milk weeds, &c., and do not injure useful plants.

PAPILIO ASTERIAS.

Naturalists depend mostly on the characteristics of the butterfly to determine the species. The chrysalis and pupa of different species are often very similar in appearance. Mr. Harris describes the butterfly which issues from your greyish and green chrysalis as follows:—It is of a black color, with a double row of yellow dots on the back; a broad band, composed of yellow spots across the wings, and a row of yellow spots near the hind margin; the hind wings are tailed, and have seven blue spots between the yellow band and the outer row of yellow spots, and, near their hinder angle, an eye-like spot of an orange color with a black centre; and the spots of the under side are tawny orange. The female differs from the male, above described, in having only a few small and distinct yellow spots on the upper side of the wings. The wings of this butterfly expand from three and a half to four inches.

The caterpillar of this butterfly lives on parsley, carrot, parsnips, caraway, &c., and is sometimes called the parsley-worm. They sometimes injure the plants considerably. The eggs, laid in July and August, are hatched soon afterwards, and after attaining their growth become chrysalids, and are transformed to butterflies about the beginning of June the next year. Gathering and destroying by hand is the only known method of preventing their ravages.

GRASS FOR NAME—WILD RYE (?)

Can you give me the name of the grass, which I enclose to you? It is new to me, the first which I noticed being two years ago; it is now thinly mixed in on several moist pieces of natural mowing; see none of it on land which has been cultivated. O. E. F.

Salisbury, N. H., July 25, 1871.

REMARKS.—The flowers and roots are parts which botanists wish to see in determining varieties of grasses. Hence it is often difficult to determine the name of a grass without these. A pretty good botanist to whom your specimen was shown thought it was witch grass. But on comparing the two, a material difference was observable in the arrangement and density of the spikelets, and otherwise. We therefore enclosed it to our correspondent, E. A. Ellsworth, a graduate of the Massachusetts Agricultural College, who has given it a thorough examination and concludes, though not with much positiveness, on account of the absence of flowers, &c., that it is *Elymus striatus*, Wild Rye, or Lyme grass.

We are pleased by the spirit of inquiry manifested by the receipt of plants, insects, &c., for names. It shows that a need of a better knowledge of the things by which we are surrounded and with which we have to do, is felt.

And now, boys and girls, how shall the long evenings of the coming winter be employed? Will not the study of some of the many primary books on botany, natural history, &c., pay better than reading love and murder stories? A little knowledge is *not* a dangerous thing in these days, if it ever was.

THE FIVE-SPOTTED HAWK-MOTH.

Since we wrote our reply to the inquiry of Mr. H. G. Ballou, of Lunenburg, for name of a large butterfly that he enclosed in his letter, we have obtained the following cut, which, though coarsely engraved, illustrates not only the butterfly, but

the caterpillar and the chrysalis stages through which it passed; and also some of the parasites which disturb its peace and destroy its life. All butterflies and moths deposit their eggs and die; from these eggs hatch *caterpillars*, which have strong jaws and voracious appetites; they eat and grow till the time comes for them to take a nap; in their sleeping dress, which is of various patterns and colors, they are called *chrysalids* or *chrysalis;* from this stupor they come forth with four scaly or powdery wings and mount into the air in the gaudy dress of butterflies. Their strong jaws are gone; coarse food is no longer relished; they are decidedly aristocratic in their associations, and fastidious in their tastes, sipping the honey of flowers, &c.; they appear determined to have a gay time of it generally; they deposit their eggs for a succession of their species, and disappear from the stage of action.

The full grown caterpillar is marked A; and the chrysalid B. The jug-handle appendage of this chrysalid is peculiar to this butterfly, and is a very neat contrivance to protect its long tongue. The butterfly is marked C, and at G we have its head magnified to show its leg, antenna, or feeler, and its peculiar tongue, now coiled up like a watch-spring, but with which it sucks flowers while upon the wing, like a humming bird. On the back of the caterpillar, at E, are seen the cocoons of the larvæ of the ichneumon flies F and f, and at e two of these cocoons magnified, with the end of one of them cut open, and the top pushed off like a hinged lid, by the insect which had emerged therefrom, and become a perfect ichneumon fly. These parasites destroy large numbers of caterpillars, which might otherwise increase so immensely as to destroy vegetation entirely in spite of all that man could do. So much for this potato worm and its enemies, to watch the operations of which a magnifying glass is necessary.

WHEAT IN READING, VT.

I have been reaping the past week for my neighbor, Rufus Stearns. He has raised wheat for twenty years, and he assures me that he has not had a single failure in this crop during that time. He estimates the yearly average as high as twenty-five bushels per acre. Until about three years past he occupied a hill farm, near the old centre brick church in this town, Reading. He now lives on the old "worn out" meadow land bordering Mill Brook. Here he has raised three beautiful crops of wheat, on land on which farmers generally abandoned wheat raising about thirty years ago. Mr. Stearns tells me that he raised one year on the hill farm forty-five bushels of wheat on seven-eighths of an acre. This year on just about the same area of intervale land he has 694 sheaves, double band, and he estimates the yield equal to thirty bushels.

His practice is to turn over sward land in the spring, manure liberally in the hill for corn, if he has not enough to spread, and after harvesting the corn, ploughs in the fall. In the spring, as early as the season will allow, he ploughs again and spreads on only about seven one-horse cart loads of manure per acre, eight to ten bushels of refuse lime. This he obtains at the lime kiln at ten cents per bushel, then slakes it dry, adds what ashes he has, and broadcasts it at the time of sowing the wheat, and harrows it all in together. The secret of his uniform success in wheat raising on hill and intervale consists, he thinks, largely in the use of lime.

Another neighbor, Mr. Jarvis Pratt, a very thorough hill farmer, has kept up the practice of raising wheat every year, but some of his later crops have been rather poor. He has not used lime. There are but few other farmers who have raised wheat in this neighborhood for many years.

I have spoken of the *secret* of Mr. Stearn's success with this crop. This however is not a proper word to use, as he has no secret; but tells us all that we can raise wheat as well as he if we will follow his practice, every step of which he is ever ready to explain and illustrate.

With the advice and example of these two neighbors, whose farms adjoin that of my own, I was induced to try about an acre and a quarter of my hill land, near Mr. Pratt's, with winter wheat last fall, as I have been in the practice of seeding in the fall, believing that the oat crop with which many seed their grass fields is a hard one both for the land for the young grass. Mr. Stearns estimates my harvest at thirty bushels, though I applied no manure, lime or ashes to the crop. It should be remarked, however, that the present season has been unusually favorable to wheat.

The success of Mr. Stearns for the past three

seasons in raising wheat on his intervale land has been such that I shall try a small piece on similar land separated from his by the highway only, notwithstanding the general opinion of the meadow farmers that they cannot raise wheat.

Perhaps I should say that Mr. Stearns obtained his seed from Canada. He ordered a bald variety, but it proves a mixture; part bald, part bearded. I enclose an ear of each; also two ears from my field. THOMAS S. FLETCHER.

Felchville, Vt., Aug. 13, 1871.

REMARKS.—Four well-filled heads of wheat were received, measuring from 3⅞ to 4½ inches. The berry is plump.

CHERRY TREES IN A PASTURE.

I have a piece of ground lately cleared, that has grown up to red cherry, called bird cherry, that I wish to pasture. Will it injure my stock?

Orford, N. H., Aug., 1871. J. E. C.

REMARKS.—Cattle often run in pastures in which cherry trees are abundant and are not injured by eating the leaves. But there are well authenticated cases of death from eating cherry leaves. Possibly where stock has the variety of food which woodland affords, they have no appetite for cherry leaves, but when kept in a pasture of only grass, there may be an unsatisfied craving which leads them to eat so freely of cherry leaves when they get at them and have nothing else of the kind, as to cause a constipation which results in illness or death. We do not feel safe in answering your question in a more direct manner, but solicit the opinion of others.

GARGET POKE AND INDIAN POKE.

I wish to inquire if poke or white hellebore is what we call Indian poke, a plant that grows in our meadows, with a stubbed stalk two or three feet high, with large leaves and a thick cluster of small light colored roots, which are poisonous.

The hay crop is a very short one in this section. It is like some sheep I have seen with an ear mark that took both ears off close to the head! Haying is not finished up entirely. There are some meadows and a little upland to cut over yet.

We are getting from one-quarter to one-half as much on upland this year as we did last. Meadows are some better than that, but not equal to last year. Other crops are looking well, considering the very dry time we had the first of the season.

Apples are not so plenty as last year, but there will be enough for family use and some cider in those now on the trees remain and ripen.

WILLIAM D. COLBY.

West Springfield, N. H., July 27, 1871.

REMARKS.—Common poke or garget, and Indian poke are different plants. They are ranked by botanists in different orders. The garget poke in Wood's Botany is in Order CV.—*Phytolacca decandra;* the Indian Poke is in Order CXLVIII.—*Veratrum viride.*

Our physicians make considerable use of the Indian poke in their practice, and from its roots the American Hellebore is manufactured. The garget poke is much the largest plant, and is perhaps most readily distinguished by its clusters of purple berries. The Indian poke has only seeds. As similar nquiries have heretofore been made in respect to these plants, we copy the full description of each from Dr. Bigelow's *Plants of Boston and Vicinity*, which, with the aid of a dictionary, will be understood by those not familiar with the botanical terms used by the writer:—

GARGET POKE.—*Phytolacca decandra.*—Leaves ovate, acute at both ends; flowers with ten stamens and ten styles.

A common plant, known also by the names of *Garget, Cocum, Jalap*, &c. The root is of large size, frequently exceeding a man's leg in thickness; and is usually divided into two or three principal branches. Its substance is fleshy and fibrous, and easily cut or broken. Internally it is distinctly marked with concentric rings of considerable thickness, while its outer surface is covered with a very thin, brownish bark, which seems to be little more than a cuticle. The stalks, which are annual, frequently grow to the height of six, and even nine feet. They are round, smooth, and very much branched. When young their usual color is green, but in most plants, after the berries have ripened, they are of a fine purple. Leaves scattered, petioled, ovate-oblong, smooth on both sides, ribbed underneath, entire, acute. The flowers grow in long pedunculated racemes opposite to leaves. Peduncles nearly smooth, angular, ascending. Pedicels divaricated, sometimes branched, green, white or purple, furnished with a small linear bracte at base, and two others in the middle. Calyx none. Corolla resembling a calyx, whitish, consisting of five round-ovate, concave, incurving petals. Stamens ten, rather shorter than the petals, with white, roundish, two-lobed anthers. Germ greenish, round, depressed, ten furrowed. Styles ten, short, recurved. The flowers are succeeded by long clusters of dark purple berries, almost black, depressed or flattened, and marked with ten furrows on the sides.—Road-sides.—July, August.—Perennial. The root is a violent emetic.

INDIAN POKE.—HELLEBORE.—*Veratrum viride.*—Panicle downy; partial bractes longer than their pedicels. Segments of the corolla thickened on the inside at base.

A large, green, leafy plant, not uncommon in meadows and swamps. The root is thick and fleshy, its upper portion tunicated, its lower half solid and sending forth a multitude of large, whitish radicles. The stem is from three to five feet high, roundish, solid, striated and pubescent. Throughout the greater part of its length it is closely invested with the sheathing bases of the leaves. The lower leaves are large, from half a foot to a foot long, oval, acuminate, pubescent, strongly plaited and nerved; the lower part of their edges meeting round their stem. The upper leaves become gradually narrower, and the uppermost, which perform the office of bractes, are linear-lanceolate. The flowers are numerous and distributed in compound racemes, axillary from the upper leaves, and terminal; the whole forming a sort of panicle. Peduncles roundish, downy. Bractes boat-shaped, acuminate, downy. The pedicel of each flower is many times shorter than its bracte. Calyx none. Corolla divided into six green, oval, acute, nerved segments, of which the alternate ones are longest. All the segments are contracted at base into a sort of claw with a thickened or cartilaginous edge. Stamens six, with recurved filaments and roundish, two-lobed anthers. Germs three, cohering, with acute recurved styles as long as the stamens. A part of the flowers are barren and have only the rudiments of styles, so that the plant is strictly polygamous. The seed vessel consists of three capsules united together, separating at top and opening on their inner side. Seeds flat, imbricated. —June.—Perennial.

The root of this plant, when taken internally,

produces violent effects, and is dangerous in considerable quantities. It is chiefly used in the country as an external application in cutaneous affections. From its great affinity in habit to the Veratrum album, an European species, which has lately acquired considerable celebrity as a remedy in gout; the American plant is particularly entitled to the attention of physicians.

SOIL FOR, AND SETTING STRAWBERRIES.

Will you inform me through the NEW ENGLAND FARMER what kind of ground is best for strawberries, and when is the best time to set them out?

BENJ. F. MCLAUGHLIN.

Middleboro, Mass., Aug. 14, 1871.

REMARKS.—A moist, rich loam suits the strawberry best. The soil should be deep,—that is eight or ten inches,—fine, and kept clear of weeds.

As early as the soil is suitable for sowing oats, in April, is a good time to set the plants. Make an opening for the roots, spread them a little and press the earth close about them. Keep the plants moist, and they will soon take vigorous hold of the ground. They will do well if set in August, if the plants are kept moist.

FRANKLIN CO., MAINE.

The cry of lamentation which has been going up from this section for some time is still ascending. The grasshoppers have made fearful havoc with both early and late crops, and are now, no doubt, eating daily more than all the stock. After taking their first choice of vegetation, a scarcity compels them to glean again on what only a few days before was refused. The farmers deprive them of much of their second and third choice, by harvesting any crop that is worth it, as soon as it is fairly determined that it is to be appropriated by them.

This course destroys many, drives others to feed upon the leaves of the trees, and adds to the amount of feed saved for the stock; because if a field of wheat, oats, or corn, whether of one acre or ten acres, is attacked, leaf and stalk are gone in a few days, unless cut at once. Brood after brood of the hoppers come once in about two weeks. When it was very dry they came, and after copious rains they came just the same. One brood feeds on what preceding ones would scarcely touch. Currant bushes are now a favorite. First the leaves, then the bark are taken nearly clean. Young apple trees were taken at an early day, and now the medium sized ones are selected. Corn is stripped, beginning with the tassels, going to silks, leaves, would-be ears, and then the stalks are cut down, if it is not speedily harvested. Localities that were visited by them last year are generally quite free, as far as heard from. Early potatoes were first attacked. The root crop, sowed for feed, has fared hard.

The hay crop, in some sections, is rated at one-fourth; in another at one-third; in another at one-half the average for ten years; and so on, up to a full crop of hay, and in some northern parts of the County it is better than an average, with few hoppers. Hardly any farmers agree with me that we have, as a whole, more than a half crop of hay in this County. I think we have about sixty per cent. Large lots of Western corn are purchased to make up the deficit to some extent.

Wherever farmers meet, this gloomy prospect is the topic of conversation. Politics are forgotten. Short crops and low prices are everywhere discussed, and men seem to look only and constantly on the dark side. But as yet neither man nor beast has starved. The expectations of many have been sadly disappointed, but reverses as well as successes have their lessons. And our calamity may prove less disastrous than is now generally apprehended.

In consequence of favorable weather early in the season, there was more time than usual for "spring's work." The area of general farm crops was extended. A little more wheat was sown, and a few more potatoes were planted, and so it was with all the crops. When it was found that the early drought was likely to diminish the hay crop, nearly all the farmers planted or sowed an extra patch of corn, or roots, and here and there a little straw or coarse hay was saved, which too often is thrown into the yard just before haying time, to make room for the new hay. And now many are trimming up nearer to the fences, cutting a load or two in the pastures, beside the brooks, on the hills and elsewhere. With such economy and foresight the severity of our calamity may be mitigated to a greater degree than our fears at present allow us to hope.

O. W. TRUE.

Farmington, Me., Aug. 14, 1871.

COLLECTING MUCK.

The swamps and low grounds where muck abounds, are usually as dry soon after the haying season is over, as they ever are. This is the favorable time to collect it. The days are long, the surface is favorable for hauling over, and other farm work not so pressing that a few days cannot be spared for this very important work. A good way is to throw out the muck and allow it to remain a few days in rather small winrows or heaps. In this form much of the water is readily drained off, and with it one-half at least of the weight of the whole. This greatly reduces the cost of carting. If the muck is to be hauled far, it will be cheeper to let it lie where thrown out, or if such place is liable to be inaccessible at a later period, to cart it to some higher land near by, and leave it for late fall or winter transportation.

Many of our farmers do not yet appreciate the value of this material as a manurial agent. More thorough experiments, and a more general use of it, would convince hundreds of its great value.

In his excellent "*Lectures on Agricultural Topics*," Mr. ALEXANDER HYDE, of Lee, Mass., says:—

"As an absorbent, dry muck is very nearly equal to pulverized charcoal, which it much resembles in its chemical constitution. As a basis of compost, we know of nothing superior to it, unless it is leaf-mould from the forest, which is richer in potash and other soluble saline matters. We cannot too strongly insist upon the importance of composting all manures. Not only is the quantity greatly increased, but the quality is also. Much of the barn-yard manure that is carted directly from the yard and ploughed under, is unevenly distributed, is full of seeds, and lies in large lumps, so that the crops do not receive the full benefit of it. By composting, we not only get a much finer manure,

but we also get the mysterious catalytic (that is, dissolution into parts,) influence, by which, in the contact of fermenting nitrogenous substances, the whole mass is fermented, much in the same manner as when, by a little leaven, the whole lump of meal is leavened. We know that there is labor in composting, and that labor costs money; but we very much question whether any labor on the farm is more economically expended than upon the compost heap."

We entirely agree with the writer on this point. It is one of the most profitable and important duties of the farmer, and yet is greatly neglected by a large portion of them.

Gather up the muck now, for muck is manure. It is not sand, nor gravel, nor clay, nor stones, but decomposed vegetable matter with more or less mineral elements of fertility washed into it from higher lands.

For the New England Farmer.

DRAINAGE OF DRY LAND.

I deem it my duty to state, with your permission, through the columns of the FARMER, that in my letter on the drainage of wet and dry lands, published in your issue of May 20th, I said, at that time, all I intended to say on the subject. I tried to write plainly, and to keep to my subject, and made but one point wherein I differed from your very learned Boston correspondent, Mr. Fireside Farmer, and that was this:—that the dry lands, such as I there described, which are only a fair sample of thousands of acres of similar lands in the vicinity where I am writing this letter, and of many others scattered all over New England, do not need artificial draining.

They are what I call dry subsoil lands. They vary from very coarse, light sandy loam, to that which is finer, heavier and more compact. In some places they are rocky and hilly, in other places they are level, free from stone and sandy. But all agree in one particular, their subsoil is dry. No water ever stands so near the surface as to obstruct the roots of plants in their downward course in search of food and moisture. I have examined the lower strata of these soils in our vicinity pretty thoroughly for the last forty-five years, where I have owned and worked a small farm of this kind of land, on which I have sunk wells, and have assisted and been present where wells have been sunk on other farms. Usually it is necessary to go down all the way from ten to thirty feet, to reach permanent living, standing water. Such land, in my opinion, is sufficiently drained naturally.

I will now define for my worthy friend what I mean by the natural drainage these lands already possess. I may differ from him somewhat on this point also. By natural drainage, I mean that perpendicular drainage I alluded to in my letter, published in the FARMER of May 20th. My theory and belief is this: All such dry subsoil lands are sufficiently drained by those innumerable little pores and subterranean channels, whereby the surface water that is formed by the storms, gentle showers of rain and melted snows, find their way down to the standing water in the lower strata of the earth; the soil absorbing from them as they descend, their heat and other valuable properties they may contain. So also the air, as the surface water settles away, enters the soil by the numerous little veins left vacant by the receding water, and impart heat to the soil, and perhaps other beneficial influences; and the same may be said of the dews, which have ample room, and find these soils in proper condition in which to perform their office.

Thus I have tried to be brief, and to the point. I think that these dry lands need no artificial drainage, and I state my honest convictions, according to my present light, as gathered from an experience of more than fifty years, that, as man and boy, I have worked these kinds of lands; using the hoe, wielding the spade, and holding the plough with my own hands.

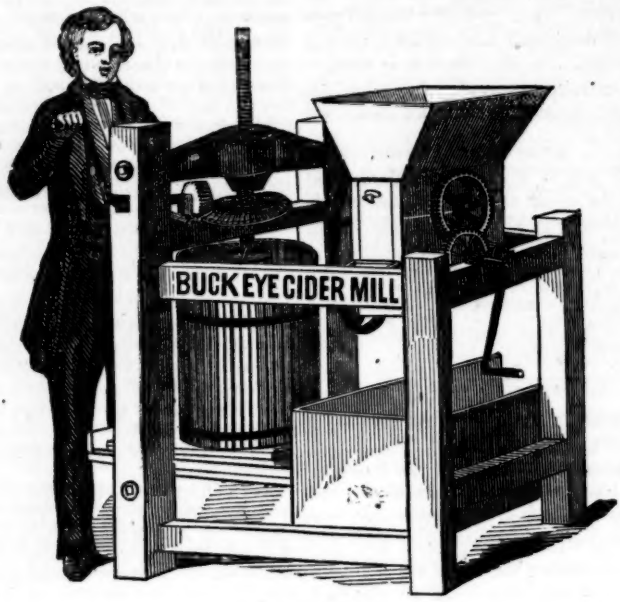
But I claim to belong to the party of progress in agriculture, and if your Boston correspondent has practical facts in his possession that will show how these dry New England lands can be benefited by artificial drainage, I am all attention, and should be very happy to read his communications on the subject. If he has not any of these facts to controvert the theory I have laid down, and the point I have tried to make in this letter, it seems to me to be arrant nonsense to pursue this subject any farther in its present form, as my worthy friend seems to be treating the drainage of dry, gritty soil in Scotland forty years ago, while what I have written on the drainage of dry and wet lands has reference to lands of this kind here in New England, such as I have described in this letter.

One thing more. My worthy friend says in his last letter to the FARMER, that there is much fructifying matter in rains and snows, which, if allowed to sink into the soil, instead of being washed off its surface, make a fair manuring of themselves. In this proposition I agree with him in part; but will venture a good honest Yankee guess, that should a farmer rely on the above dressing to feed his growing crops, he would soon have to resort to the manure heap or ruin his land. He would find himself in the condition of the individual who set out to live by faith, but after getting somewhat reduced by hunger, concluded he would modify his views somewhat and take a little bread and cheese.

ROYAL SMITH.

Millington, Mass., August 7th, 1871.

—An Iowa paper says that a drover near Knoxville let forty-two hogs go without water, one hot day last week, and that they all died in consequence.



THE BUCKEYE CIDER MILL.

As completely presses the cider from the bottom of its press as from the top, and leaves the cheese nearly dry in all parts. It is strongly geared, beside having great strength in its lever and screw. Easily operated by a man or boy. Very durable. Occupies but small space. Lasts a life time without getting out of order. Buy a Portable Mill and make your own cider at home, at any time when it is convenient to do so, thus saving the labor and expense of handling and carting to a distant mill, and the amount required for profit by the mill owner.

CONSOLATIONS.

The grass crop is light; very light, all over New England. Our barns, wont to be plethoric with rich harvests, are comparatively lean and barren. The daylight peeps through many a crack which has usually been closed by rich clover, redtop or timothy, and we look at the half-filled bays and scanty scaffolds with anxious inquiries as to what we are to do with our stock,—with the splendid two and four-year-old Devon steers, upon which so much promise of future usefulness and profit rested; with the "Fearnaught" and "Knox" colts; with the young Aldernyes, Ayrshires and Shorthorns, whose sales were to assist in lifting a mortgage, building a barn, repairing the house, or furnishing the outfit of a beloved daughter, who is soon to go out from the old roof-tree and establish a home of her own!

Two things are indispensable to us in this emergency,—Faith and Pluck. First, Faith:

> "Judge not the Lord by feeble sense,
> But trust Him for his grace;
> Behind a frowning providence
> He hides a smiling face."

How much consolation may be derived from a frequent repetition of the above lines, and the reception of their sentiment into our inmost hearts, no one can tell until it is tried. "He who tempers the wind to the shorn lamb," will order all our temporal affairs as will be best for us, if we receive the ordinances of Heaven in a spirit of acquiescence and humble trust.

Second, Pluck. A good old word, meaning spirit, perseverance under discouragement; indomitableness, courage, hope. Hoping for the best begets pluck, and a plucky spirit overcomes most obstacles.

Some farmers have already yielded, even before a pressure came, and offer to sell good cows at $10 each, and other stock at greatly reduced rates! In this there is evidently a want of both faith and pluck. Let us patiently wait and look and philosophize a little. Let us see if some compensations may not spring up to balance our losses.

Last year we were burdened with a crop of apples. They were fed to the cows, horses, swine, and boiled for the poultry. They were made into cider in vast quantities,—one mill near us having made 2,500 barrels!

Now, how many millions of the *June moth*—that persistent enemy of the apple—were fed and reared by the apple crop of last year? And so of the curculio. Allowing four eggs to each apple to have been deposited in the growing fruit, how many legions would have been perpetuated this season if the trees had blossomed and put forth their fruit! No tongue can tell. The stars of heaven and sands of the seashore would have been outnumbered by them. But what will those destructives do now? They will not find their meat in due season, but must go down to the earth and die. In this the whole race of these pests may be exterminated, and future crops be abundant and fair. As with the two mentioned, so it may be with numerous other insects which prey upon crops, so that we *may* be greatly relieved for many years to come.

May there not be comfort and consolation gathered from this?

Corn and potatoes promise now abundant crops. The small grains were good, and recent rains are greatly assisting the second growth of grass. All these will assist in making up the deficiency in the general hay crop.

Again, the short hay crop suggests *economy*. Hundreds of acres were cut over which have been left untouched before, and their scanty crops harvested with care.

A strict economy will be observed, also, in feeding stock. A little at a time, and often, will be the rule; and as grain will be as cheap as hay, large quantities will be used. The hay cutter will be put in use, the different qualities of fodder, mixed and mingled with meal, will take the place of long fodder, and a great saving made in this way. Under this system of feeding it is quite probable that as much stock may be well kept the coming winter, as there was last winter.

There is a little panic now among stock-growers. We advise patience and moderation. Hold on. A ton of good corn can be purchased as low as a ton of good hay, and hay, we think, will be no higher in mid-winter than it is at present.

At any rate, no calamity is imminent. Have faith in an overruling Providence, be virtuous, practice economy, and all will be well.

For the New England Farmer.

PLOUGHS.

I hear considerable in regard to ploughs and ploughing, but more especially about the swivel plough, of which there are several makes. Now, the question in my mind is, which is the best one for all kinds of work, taking into consideration ease in holding, amount of work performed, amount of motive power required to disintegrate the soil to a given point, and money cost. Some say that the one known as the "Lebanon plough," made in Lebanon, N. H., is *the one*, but there is one serious objection to it; to keep it where it should be there must be a heavy, constant strain on the handles, that will quickly fatigue the strongest man,—or that is my experience.

Then there is a plough made in Brandon, Vt., the trouble with which is that it will not "run in" easily, and does not turn the furrow over flat enough on level land, though there is a difference of opinion on the latter point, caused perhaps by some little difference in different ploughs from the same factory.

The Holbrook plough is but little known here, but is strongly advocated by some and spoken lightly of by others (mainly agents for other makes); some say it is just the thing, others that it is a costly, heavy, unwieldy concern.

The next in the category is the "Luffkin Patent," which is a good plough with a heavy team, doing good work when one side up, but reversed, not quite so good. But there are serious objections in the way of its being considered the best: it has never been entered in any (if I am rightly informed) public competition with other ploughs to decide this vexed question. I have been informed that at the Springfield, Vt., trial, it was not entered, though the agent was requested to put it in. Then the plough is only sold by agents who purchase State, county or town rights, as they see fit, and charge $6 commission on each and every plough sold by them, making the cost to be $18, which is a pretty good profit, and manifestly unjust to the manufacturers and public.

To settle this important question, I would suggest that those that manufacture ploughs inform the public just what they have got, its price, amount of draft in pounds to turn a

furrow of given dimensions, and what it will do, and then sell at living prices in localities to suit the public, so if pieces are required they can be procured at small expense for expressage or freight. If they have a good thing, they can afford to do this; if they have not, they will probably keep out.

A good swivel plough is greatly needed by a large number of our farmers, but they wish to know before purchasing if it will do the work they have to do, and do not wish to travel from fifty to two hundred miles for information that would cost the parties from $2 to $5 per week to furnish to the whole public.

If you or some of your correspondents will give a few facts in regard to this matter, you will confer a great favor on me, and perhaps others that need such an implement. Jones.

Addison Co., Vt., July 3, 1871.

MOVABLE COMB HIVE.

The movable comb-hive is, as its name signifies, a hive in which each sheet of comb is movable, and can be taken out at will. The common or old-fashioned "bee gum" being simply a box or hollow log, the bees fasten their comb to the top and sides of it, making it impossible to remove the comb but by cutting it out. Now, by filling this box with frames so arranged that each comb will be built in a frame, and these frames easily removed, we have a movable comb-hive. The principles which govern the practical movable comb-hive are these:—

1. The parts intended to be movable should touch the hive in as few places as possible. Bees fasten with propolis every joint in a hive, making a hive improperly constructed practically an immovable comb-hive.

2. Every part not intended to be in contact, should be so far separated that a bee can pass, and so near that comb will not be built between. Bees are sure to fill up any place they cannot pass between readily with propolis, making it difficult to separate the parts. Three-eighths of an inch is found to be the proper distance.

3. The hive should be so arranged that it can be easily opened, and the frames taken out and returned without killing a bee. A hive that cannot be so opened is sure to be neglected; and it should be borne in mind that a movable comb-hive is no better than the common box, only as its movable features are made use of. There is no *luck* in a movable comb-hive; and it is frequently, if not generally, the case, that a person who does not succeed with the common hive will not be successful with the movable comb. The frames must have something under the top bar to guide the bees in building their comb. A triangle fastened to or worked on it will do this. The first movable comb-hive did not have this guide, consequently comb was frequently built across the frames, making it difficult, if not impossible, to remove them. A patent was taken out a few years ago for the device, but as it is not a valid one it is free to all.

Mr. Langstroth invented and patented the movable comb-hive; and though there are thousands of patent movable comb-hives, most of them have adopted some of Mr. Langstroth's devices; and it is not too much to say, that the nearer a hive approaches to the Langstroth, the more nearly perfect it is.—*National Live Stock Journal.*

Tub Cheese.—Mrs. O. C. Smith, of West Waterville, gives in the *Maine Farmer* the following particulars of her manner of making tub cheese, which she says are very good. Take an ash tub that will hold about six gallons, soak it in salt and water about three days before using. Bore six or eight holes in the bottom of the tub. I then run up my milk the same as usual for a pressed cheese, chopping and salting the curd. I then place a cloth two thicknesses in the bottom of the tub, put in my curd, placing another cloth four thicknesses on the top of the curd, then put on the follower and a stone of about 15 pounds. I proceed in like manner every day, changing the top cloth for a dry one every time I put in a new curd. When the tub is full or nearly so, I then spread over the top a thin layer of butter to keep out the air, cover tight and set it away in a cool place until ready for use.

Poultry Condiments or Tonics.—Mr. Mills, a French apothecary, recommends, from personal experience, the following as an unfailing tonic or stimulant for debilitated fowls, and especially for young turkeys during the critical stage, when he says its effects are most marked and salutary:—Take cassia bark in fine powder, three parts; ginger, ten parts; gentian, one part; anise seed, one part; carbonate of iron, five parts; mix thoroughly by sifting. A teaspoonful of the powder should be mingled with the dough for twenty turkeys, each morning and evening. It is of the greatest importance to begin the treatment a fortnight before the appearance of the red, and to continue it two or three weeks after. If this precaution be taken in time, there is no need of losing a single turkey in a brood.

Cleanse the Skin.—It is a curious fact illustrating the necessity of cleanliness, and of keeping the pores of the skin open, that if a coat of varnish or other substance impervious to moisture be applied to the exterior of the body, death will ensue in about six hours. The experiment was once tried on a child at Florence. On the occasion of Pope Leo the Tenth's accession to the papal chair, it was desired to have a living figure to represent

the Golden Age, and so a child was gilded all over with varnish and gold leaf. The child died in a few hours. If the fur of a rabbit or the skin of a pig be covered with a solution of India rubber in naptha, the animal ceases to breathe in a couple of hours.—*Manufacturer and Builder.*

THE NATIONAL SWINE EXPOSITION.—The *Western Rural* says that this exhibition bids fair to surpass the expectation of its projectors and friends. We are pleased to learn that very many breeders and stock men from distant States have signified their intention to be present with stock. Letters have been received from breeders and stock raisers in Kentucky, Tennessee, Ohio, West Virginia, Pennsylvania, New York, New England, and the Canadas, apprizing the managers of the Exposition, that accomodations for stock will be required from those sections of the country. And it is now definitely understood that nearly every prominent breeder in the North-west will be represented. The opportunity to contrast the merits of different breeds, and different strains of blood of the same breeds, will thus be afforded, and the very best means presented for arriving at a correct judgment upon many important questions relating to the breeding and management of swine.

MULCHING WINTER WHEAT.—Two experiments in spreading coarse strawy manure as a mulch, in November, on land sown to winter wheat in September, were tried at the farm of the University of Wisconsin, last season, and the result is published in the *Western Farmer*. The product of the White Touzelle variety was 13.51 pounds to one of seed, or 23.38 bushels per acre; of the Red Soisette variety, 13.76 pounds for one of seed, or 22.01 bushels per acre. Though similar plots were not tried without the mulch, to test the comparative increase of yield from its use, the results are regarded as encouraging. The superintendent of the farm, Mr. Henry H. McAffee, says: "Care should be exercised to not get the mulch too thick in spots, as that cause killed out quite a lot of the young plants in the above experiments."

DEPRECIATION IN CROPS.—We doubt the correctness of the conclusions of many agricultural writers as to the great depreciation in the amount of wheat and other crops of modern times as compared with the golden period of "forty years ago." We apprehend that the assumed average of the olden harvests is over-estimated, and that of our day is rated too low. We see notices of crops of wheat this year in Michigan that would compare well with the celebrated production of Genesee, when that country was new. James H. Graham, of Mason, had a yield this season of thirty-five bushels and a peck per acre on a field of five acres. Mr. C. T. Beck, of Monroe, thirty-seven bushels and six quarts per acre from five and a half acres. As the mould of forty years gathers on these statements, will not the agricultural writers of those days cite them as evidences of the crops of wheat which were harvested by the ancients of 1871? "Distance lends enchantment to the view."

EXTRACTS AND REPLIES.

THE SPANISH OR BLISTER-FLY POTATO BEETLE.

I enclose two bugs which I found on my potatoes. They do not appear to me like the kind described in the FARMER of July 1. If they are not like them, please describe them and tell us what will keep them off the vines. T. E. LOOMIS.

North Amherst, Mass., July 17, 1871.

A pest has made its appearance in different localities in the form of a potato bug, the like of which has not been known among us. Of its origin and habits there is but little known. They seem to herd together, and make clean work as they go. At first but a few hills will be infested, and when these are stripped of their leaves they move on. They appear very lively, in companies of hundreds on one hill, but when disturbed they "play possum," dropping to the ground and make believe dead. They appear to be particularly fond of the "Early Rose," for it is the first to be attacked.

I herewith send you a specimen, and would like to hear from you respecting the "baste."

Vienna, Me., Aug. 19, 1871. W. R. BROWN.

REMARKS.—A reply was prepared to the inquiry of Mr. Loomis, and put in a book in which we marked an extract descriptive of the insect received, and was thus forgotten. We at once recognized Mr. Brown's "baste" as a near relative of Mr. Loomis's bug, and on turning to our book for a description of the insect last received, we found Mr. Loomis's letter and our reply lying snugly between its leaves.

Both of these insects belong to the Blister-beetle family, known in the books as *Cantharidæ* or *Meloidæ*. The variety from Mr. Loomis is named *Cantharis cinerea*, by Fabricius. Mr. Harris says "this is the most destructive Cantharis found in Massachusetts. It is about six-tenths of an inch in length. The word *cinerea* means ash-colored; the insect being covered with a very short down of that color. When it is rubbed the ash-colored substance comes off, leaving the surface black. It begins to appear in gardens about the twentieth of June, and is very fond of the leaves of the English bean, which it sometimes entirely destroys. It is also occasionally found in considerable numbers on potato-vines; and in Cambridge, Massachusetts, it has repeatedly appeared in great profusion upon hedges of the honey-locust, which have been entirely stripped of foliage by these voracious insects. They are also found on the wild indigo-weed. In the night, and in rainy weather, they descend from the plants, and burrow in the ground, or under leaves and tufts of grass. Thither also they retire for shelter during the heat of the day, being most actively engaged in eating in the morning and evening. About the first of August they go into the ground and lay their eggs, and these are

hatched in the course of one month. The larvæ are slender, somewhat flattened grubs, of a yellowish color, banded with black, with a small reddish head, and six legs. These grubs are very active in their motions, and appear to live upon fine roots in the ground; but I have not been able to keep them till they arrived at maturity, and therefore know nothing further of their history."

The insect sent by Mr. Brown is named *Cantharis, atrata*, and is coal black. It is about half an inch in length. It appears about the middle of August, and into September. Mr. Harris says "it feeds on potato-vines, and also on the blossoms and leaves of various kinds of golden-rod. In some places it is as plentiful in potato-fields as the striped and the margined Cantharis, and by its serious ravages has often excited attention. These three kinds, in fact, are often confounded under the common name of potato-flies; and it is still more remarkable, that they are collected for medical use, and are sold in our shops by the name of *Cantharis vittata*, without a suspicion of their being distinct from each other. I have repeatedly taken these insects, in considerable quantities, by brushing or shaking them from the potato-vines into a broad tin pan, from which they were emptied into a covered pail containing a little water in it, which, by wetting their wings, prevented their flying out when the pail was uncovered. Or they may be caught by gently sweeping the plants they frequent with a deep muslin bag-net. They should be killed by throwing them into scalding water, for one or two minutes, after which they may be spread out on sheets of paper to dry, and may be made profitable by selling them to the apothecaries for medical use."

Mr. Harris gives the following description of the family to which the blistering beetles belong. To compare one of these insects in some of the particulars of his description, a magnifying glass will be necessary.

"The head is broad and nearly heart-shaped, and it is joined to the thorax by a narrow neck. The antennæ are rather long and tapering, sometimes knotted in the middle, particularly in the males. The thorax varies in form, but is generally much narrower than the wing-covers. The latter are soft and flexible, more or less bent down at the sides of the body, usually long and narrow, sometimes short and overlapping on their inner edges. The legs are long and slender; the soles of the feet are not broad, and are not cushioned beneath; and the claws are split to the bottom, or double, so that there appear to be four claws to each foot. The body is quite soft, and when handled, a yellowish fluid, of a disagreeable smell, comes out of the joints. These beetles are timid insects, and when alarmed they draw up their legs and feign themselves dead. Nearly all of them have the power of raising blisters when applied to the skin, and they retain it even when dead and perfectly dry."

HOW SHALL I RESTORE EXHAUSTED SOILS?—ROTTEN PLACES.

Last spring I broke up ten acres of an old field that did not produce 200 pounds of hay per acre, and planted to corn and potatoes, using on the whole, one and one-half tons superphosphate, and three-fourths ton plaster in the hill,—nothing else. Crops look well now. What I want is to get it into grass. The soil is a sandy loam. Will it pay to draw gas lime three miles, spread this fall after the ground is ploughed, then in the spring put on plaster, ashes, and salt, sow to barley and seed down?

The farm is one I bought last fall, and is badly run down. How would you advise me to go to work to bring it into grass again?

When I was ploughing the ground last spring there were several places where the earth looked black, and there was no sward at all. We called them the rotten places. You can see those spots now in both corn and potatoes. They have not grown at all. What is lacking in the soil?

I intend to break up about twenty acres more of an old field this fall, sow rye and seed down, then in the spring sow plaster. Would it be better to sow the plaster when I sow the grain? I have tried five kinds of phosphates. When I harvest I will let you know which does the best.

H. W. Loring.

Lewiston, Me., Aug. 14, 1871.

Remarks.—The plan which you propose to restore your exhausted lands to fertility, seems to be a good one, provided the gas lime is valuable. We do not know enough about it to give an opinion as to its merits. Reports which have come to us in relation to it are contradictory. Test it on an acre or two, and gain the information you seek by your own experience. In the mean time, the plaster, ashes and salt will enable you to get paying crops, provided you plough and cultivate thoroughly, keeping the soil light and porous all the time, and allowing no weeds to grow. When you have brought up the soil so as to produce a fair crop of clover, you are then "master of the situation," and can produce about what crops you please. If possible, however, encourage every crop with a sprinkling at least of stable manure.

Little can be said about the "rotten places" of which you speak without of an examination of the soil. We have known spots to become barren by heaps of acid muck being placed upon them,—so thoroughly barren that no vegetation would grow upon them for several years after the muck was removed. Sometimes water finds its way to the surface, in particular places, that is impregnated with sulphur, or iron, to such an extent that nothing will grow upon the ground saturated with it. Dress one or two spots with quick lime, or some strong alkali, and note its effects. Perhaps a liberal dressing of wood ashes would restore them.

A LAME HORSE.

As I see you allow farmers in trouble to ask you questions, I wish to ask one about my horse. He is lame behind, and has been for nearly a year, but I can find no sore spot, neither does he favor it in the least while standing. He limps when he first starts, but by travelling he seems to get over it in a degree, but is now growing worse. Sometimes in turning, if he happens to twist his leg a little, he

shows very plainly he is hurt. Many of the horsemen have said there was a *spavin coming*, but if that is the case, it is time, it seems to me, for it to show itself. I think it is higher up, but I can find no soreness to indicate where. Perhaps you or your readers may have had some experience in troubles of this kind, and may be able to tell me what the matter is and how to cure it.

SUBSCRIBER.

Harvard, Mass., Aug. 14, 1871.

REMARKS.—Horses are liable to become lame from a great variety of causes. In many cases, the lameness is not apparent to the eye or the touch. Some of them, perhaps, are rheumatic, and are more evident when the animal first starts off. He limps a little then, but after getting warmed up a little, the limping ceases, and he is all right again.

He may have what veterinary surgeons call an "Occult spavin;" that is, a spavin in progress, that may in the future become developed.

Another very common source of lameness is injury to the cartilage of the foot. This injury may arise from various causes. By hauling heavy loads up hill, by stepping upon a stone, or by driving fast down hill, especially if there is much load behind the animal. When the cartilage of any part of the foot is severely injured it gradually becomes ossified, or changed from a soft, pliable mass into a bony substance. While this process is going on the pad becomes excessively painful, as in the formation of a ringbone. It will be an important point gained to learn whether the lameness is in the foot or hip.

Some of our readers may be able to enlighten you, but the safest course will be to seek the advice of a veterinary surgeon.

SATURNIA IO.

The enclosed was found on a bean leaf. Please tell us about it in the NEW ENGLAND FARMER.

J. B. HOWE.

Petersham, Mass., Aug. 22, 1871.

REMARKS.—You will find a description, with beautiful illustrations of the caterpillar, cocoon, crysalis, male and female moth or butterfly, in the 1862 edition of Mr. Harris's Treatise on Insects, which occupy some four pages. The State made a liberal appropriation for the publication of this edition, and at least one copy ought to be found in each town. Every neighborhood library ought also to have a copy.

The caterpillars are of a pale pea-green color, with a brown stripe, edged below with white, on each side of the body. They are covered with clusters of green prickles, tipped with black, which sting severely, as we had occasion to learn when a boy. In eating some fruit in the dark we took one of these creatures into our mouth, the upper part of which was filled with the prickles, causing much pain and discomfort for some time, notwithstanding all that could be done; giving us a caution about eating or drinking in the dark that we have never forgotten.

On the hind wings of the moth are two conspicuous eye-spots, from which the insect receives its name, as the books say, in allusion to the ancient Greek herione, *Io*, who, as the fable went, was jealously guarded by the hundred-eyed Argus. The sexes differ greatly from each other; the general color of the male moth being deep yellow and that of the female, purple brown, though the same pattern is observable in both. These moths expand about three inches. We are not aware that they ever cause much damage to vegetation.

RE-SEEDING GRASS LAND.

My newly laid-down fields are scantily covered with grass. Would it be a good plan to sow on Orchard grass seed to fill vacancies? If so, will this month or September be the best time for doing it?

WM. P. ENDICOTT.

Milford, N. H., Aug. 16, 1871.

REMARKS.—One of the best fields of clover we have seen this season was on a field laid down in the spring of 1870. Owing to the drought which followed, the grass seed did not come. During the last week of August, last year, the field was harrowed over, grass and clover seed sowed, and the ground brushed over. One fine crop of clover has been cut this summer, and a good second crop is now standing—Aug. 21,—on the ground. On inquiry, we learn that the practice is quite common in the neighborhood where this occurred, and usually with good results. We intend to try it on fields in the same condition as those you describe. Weeds may be in the way; if so, we must pull them out. The earlier the seed is in the better; but up to middle September will do.

FOOT ROT IN COWS.

I have three cows that have the foot rot. I have used nitric acid to cut it and carbolic acid and lard for ointment, but to no avail. I wish to know if anything can be done for them and what?

SUBSCRIBER.

North Adams, Mass., Aug. 26, 1871.

REMARKS.—In reply to an inquiry for a remedy for cows that had a raw surface between the hoofs, and extending up to near the fetlock of the hind foot, Prof. Law directed to have the foot between the hoofs thoroughly cleaned by washing or by drawing a piece of rag through it; then sprinkle it with calomel and cover up with tow and tar, retained in position by a bandage. Keep dry and clean, and repeat the dressing daily.

In speaking of the "foul in the foot," Dr. Dadd says, that the disease is caused by the sudden stoppage of some natural evacuation, is evident from the following facts: First, the disease is most prevalent in cold, low, marshy countries, where the foot is kept constantly moist. Secondly, the disease is neither contagious nor epidemic.

In all cases of obstruction to the depurating apparatus there is a loss of equilibrium between secretion and excretion. The first object is, to restore the lost function. Previously, however, to doing so, the animal must be removed to a dry situation. The cause once removed, the cure is

easy, provided we merely assist nature and follow her teachings. As warmth and moisture are known to relax all animal fibre, the part should be relaxed, warmed and cleansed, first by warm water and soap, lastly by poultice; at the same time bearing in mind that the object is not to produce or invite suppuration, (formation of matter,) but only to liberate the excess of morbid materials that may already be present; as soon as this is accomplished, the poultice should be discontinued. Make a poultice of

Roots of marshmallows, bruised,	half a pound,
Powdered charcoal,	a handful,
" lobelia,	a few ounces,
Meal,	a tea-cupful,

with boiling water sufficient to soften the mass. Put the ingredients into a bag, and secure it above the fetlock. Give the animal the following at a dose:—

Flowers of sulphur,	half an ounce,
Powdered sassafras bark,	1 ounce.
Burdock, (any part of the plant,)	2 ounces.

The above to be steeped in one quart of boiling water. When cool, strain. All that is now needed is to keep the part cleansed, and at rest. If a fetid smell still remains, wet the cleft, morning and evening, with chloride of soda, one ounce; water, six ounces, mixed.

Mr. A. B. Lyman, of Easthampton, Mass., says in a communication to the *New England Homestead*, "some of the cows in this town are troubled with foot rot. Bleeding from the foot and dropping hot tar from a heated iron into the sore, is the best remedy that we know of."

The term "foot-rot" is probably used by different individuals as the name of different diseases,—those which should be treated differently. Without a clear idea of the trouble with our correspondent's cows, we give the foregoing in the hope that it may prove of some use to him, and to others who have cattle with diseased feet.

MUSHROOMS.

Are mushrooms sold in the market, and can they be raised from those growing about our farms.

Addison County, Vt., 1871. T. B.

Remarks.—Mushrooms are sold in the market. They are raised from seeds, or spores, or spawn, which are also for sale in this market. So much we learn from Hiland, Smith & Co., of Faneuil Hall market. The American Encyclopædia says, "The common mushroom belongs to the natural order of *fungi*; most species of which are poisonous, and fatal consequences have resulted from not knowing how to distinguish the few which are valuable from the majority which are dangerous." Directions for the cultivation of mushrooms are given in most works on gardening. Mr. Henderson says some place in a green-house or elsewhere, in which a temperature of 40° to 60° can be sustained during the winter, is the first requisite. Mr. Burr speaks of the artificial management of mushrooms as difficult. Mr. Henderson says that on commencing their cultivation he "labored for two years without being able to produce a single mushroom." Several varieties of field mushrooms are edible, but we understand that only one kind is cultivated.

SULPHUR FOR LICE ON ANIMALS.

We see many inquiries about lice on cattle, and many remedies proposed, most of which are both ridiculous and barbarous, and about as useful in performing a cure as are snow balls in heating an oven. Any man who would apply oil or grease to his cattle in winter, had better saturate his shirt or even his gloves with that substance, and pass half an hour in his barn some cold winter morning. We warrant he will not be very quiet there and will step quick toward the nearest fire when his time is out. And yet this is a mild and sensible remedy compared with many that are recommended.

Some dozen years since, I entered upon a farm, the barn of which was overrun with every kind of lice that ever infested a barn. Both cattle and horses were tormented. My remedy has been dry sulphur sprinkled occasionally in the hair of each animal, and I have not seen a louse on the premises for years. Sulphur is also effectual in case of poultry. Take them by the legs, hang their heads downward and sprinkle it among the feathers.

I know of no insect that will remain in contact with it. While for all farm animals it is a healthy condiment, and an antidote for many of their diseases. Where a barn is so badly infested as mine was, it would perhaps hasten the work to put unguentum in the crevices of the stalls and stanchions (not where it can touch the animals) and sprinkle the floor a few times with dry ashes.

D. L. Tolman.

Marlboro' Depot, N. H., 1871.

RAISING WINTER WHEAT.

Not far from twenty years ago, wheat was getting to be quite dear and I thought I would try my luck in raising it. I went to an old neighbor for advice, who had been in the habit of raising wheat on new land. He told me it must not be sowed until there had been two or three frosts which would destroy a fly that would attack the wheat if sown before. I followed his directions, and the result of it was it nearly all winter killed. There were a few scattering heads gathered which made nearly two quarts. I concluded I would not give up so. I then selected a piece of ground on the east side of a small knoll, warm and dry land, sowed my two quarts of wheat about the first of September, and had a good yield. I learned by this experience that winter wheat must be sown on land where it slopes to the south or east, where the snow will be more likely to remain, as wheat wants to be covered with snow to keep it warm; then it will come out bright in the spring. East or south of a forest is a good location for wheat.

As a general thing I sow my wheat after corn. It should be sown before the tenth of September to have it get well rooted. I make my land rich enough to produce a good crop of corn, and sow without any other preparation than would be given for rye. I think I raise as many bushels of wheat as of rye to the acre, side by side, the land in the same condition. I have ploughed green sward and put on compost manure made of muck and barn yard manure. I have had crops of from ten to fifteen bushels per acre on light loamy land. I seed it to herdsgrass when I sow the wheat, and sow clover seed in April and bush it in. I then get two or three good crops of hay. I have managed in this way for the last twenty years, and I have had good success, except one year about

four years ago, we had a dry fall. My wheat did not come up until too late to grow much before winter. The result was it was winter killed; or as some would say, spring killed; for the roots were injured by freezing and thawing. This crop was nearly a failure. Hence I conclude that wheat should be well started in the fall. Neither cattle nor sheep must be allowed to eat it off, for all the leaves are needed to protect the roots from the cold. I have raised all the wheat I have needed for family use, and have sold some. The variety I have mostly raised is called the White Bald. It makes good flour.

I think there are not many farms in the New England States that might not be made to raise all the wheat, either winter or spring, that the families living upon them need, if they would take hold of it in earnest and persevere in it. If this is so, what a vast sum of money could be saved at home, that now goes West for flour. I think it is easier to raise wheat than it is tobacco, though I have never tried the latter. I think if I should make my wheat land as rich as tobacco land must be to produce a crop, I could raise from fifteen to twenty-five bushels per acre, and two crops of it would not reduce the land more than one of tobacco.

M. L. GOODELL.

South Amherst, Mass., July 24, 1871.

REMARKS.—We very much regret that the publication of this valuable article has been delayed by oversight on our part.

JONES AND SMITH.

What *Jones* is this I see in print,
Who's everything so snug and nice?
I wonder if his back was ever bent,
And is he also free from vice?
And who is this unlucky *Smith*,
Whose tools and stock are all awry?
Perhaps poor Smith has not wherewith
Such fashionable things to buy. J. C.

Charlton, Mass., Aug. 14, 1871.

BLOODY WATER IN COWS.

I noticed in this week's FARMER an inquiry by Henry Miller for a remedy to cure red water in cows. I have a cow that last Spring had the red water very badly. I gave her a quart of Slippery Elm tea once a day for a week, and gave her a half peck of potatoes twice a day until all signs of it disappeared, which was in about two weeks. I have seen no signs of it since, and the cow has done nicely all summer. I have known of several cows cured in the same way. Never knew it fail. If Mr. Miller should see fit to try it, I hope he will let us know the result. C. A. CRAMPTON.

West Acton, Mass., Aug. 18, 1871.

WHEAT IN VERMONT.

The important communication from Thomas S. Fletcher of Felchville, Vt., should not fail to remind every farmer of his positive duty in raising his own bread. How sure and certain is his crop of wheat if he will but "apply his heart unto wisdom." Re-read the practice of Rufus Stearns, in the FARMER of the 26th August; also, of Jarvis Pratt. Mr. Stearns has raised wheat with perfect success and "not a failure for twenty years! He thinks he has averaged twenty-five bushels per acre, and one year he raised forty-five bushels on seven-eights of an acre." The communication speaks of three practical farmers, and it speaks volumes of wisdom to every listening farmer. It reports double the average yield of the Western States; and a *more sure crop* in New England soil than in the West. It is every word *truth*.

Now farmers, please wake up, one and all, and fail not to put in a crop of winter wheat, even should it be as late as the 15th of September. Plough in the green crop (mowing land) and while in a state of heat and fermentation, it gives rapid growth to the wheat which will continue to grow till the furrow freezes deep. We would recommend to cover with the cultivator to give it a depth of two to three inches, which guards against winter killing. To give it quick germination, soak in brine and rake in ashes or lime. Farmers will find plenty of winter seed in Boston, if difficult to be obtained nearer home. HENRY POOR.

Long Island, N. Y., Aug. 26, 1871.

YOUNG DUCKS DIED.

I see some of the members of the NEW ENGLAND FARMERS' Club are having poor luck with their poultry, and having had poor luck in raising ducks, perhaps some one can tell what the trouble was. The ducks hatched well and the young grew finely for a few weeks, and then they would droop and die. Sometimes at feeding all would be smart, but in a few minutes some would be taken with the "dumps" and die immediately. Can any one tell us the cause and cure? T. B.

Addison County, Vt., 1871.

AGRICULTURAL ITEMS.

—The Salt Lake dailies have notices of the "$40,000 worth of improved breeds of cattle and sheep, from the far-famed Kentucky herds."

—It seems reasonable that a laboring horse should have room to lie in at night, where he can turn over and shift about.

—A five-year-old city boy told his mother how to make butter: "You just take a long stick with a cross at the end of it; then you get a big tub; and then you borrow a cow."

—A tablespoonful of spirits of turpentine to three quarts of meal used for chicken food is recommended by one correspondent of the *Rural New Yorker*, for the gapes; and strong pepper, by another one.

—A correspondent of the Willimette *Farmer* feeds his stock a tablespoonful of sulphur to each animal, with their salt, once in two weeks. When he has done so, no vermin has troubled them, and his cows have not been affected with garget, nor his sheep with grub in the head. He has practiced this twenty years.

—Peter Gilbert writes to the *Rural New Yorker*: "Flies have been so bad on my horses that I found it almost impossible to work them. I took smart weed and soaked it in water, and in the morning applied it to the horses with a sponge, all over them, and found the horses to work along without any further trouble, the flies not annoying them in the least."

—A northern firm have recently leased a large grazing farm in Powhatan Co., Va., and are stocking it with goats, to the raising of which it will be entirely devoted. They have started with 200 and will increase the number to 15,000 or 18,000 as soon as they can get them. Besides their value in the dairy, the skins bring a large profit in northern markets.

For the New England Farmer.

HOBBIES---BLOODED STOCK.

When I wrote my last article, I thought I had done with Professor Law's remarks. I cannot, however, refrain from one or two more quotations. Speaking of the effects of imagination on the dam, he says: "A bay mare that was worked, stabled and grazed with a black gelding, having white legs and face, straight back and long quarters, so that the feet seemed to be set at right angles on the legs, was covered by a bay horse. She produced a foal exactly like the gelding in color and shape, and especially that of the legs." Another, "beautifully formed trotting mare, covered by a horse of the same kind, was pastured during pregnancy in the next park to a mule, and the foal shows an unmistably mulish aspect about the head, ears, thighs and gait." A "black polled Angus cow was served by a bull of the same breed, but the calf was black and white, and horned like an ox with which the cow was pastured." Out of another herd of "twenty polled Angus cows, served by a polled Angus bull, all had pure Angus calves, except one, which, threatened with barrenness, had been sent to starve on another farm, where she grazed with a yellow and white ox. The calf was yellow and white." In another case a man "had twelve white calves from his roan and brown Durham, after whitewashing his steading to ward off the pleuro-pneumonia in 1869. He never before had more than two in one year, and always sent them away."

The effect of the first sire on the succeeding progeny is also noticed. Mares bred to an ass and afterward to a horse, "had the qualities of the ass preserved in the second and third foal."

Breeding back is also noticed as one of the causes of diversity; but whether the bad qualities of the ancestors, without any of their good ones, are brought out in this way, he does not inform us. Under this head he speaks of a litter of pigs among which "the exact counterpart of the Berkshire used twenty-eight years before to give size and constitution to the herd," was produced.

But it is impossible in an article designed for a newspaper to speak of all the positions assumed by the lecturer. After cautioning us against all the difficulties that stand in our way—difficulties insurmountable in my opinion to the ordinary farmer, who has only the profits of a hard New England farm to depend upon, and who can't afford to build fences high enough to exclude all sight of the outside world, and even of the whitewash applied to stables, the lecturer comes to his

Summary of General Principles.

The second one of which is, "That in the maintenance and improvement of a breed, the truth that *like produces like*,—that the reproductive germ, ovum or spermatozoon will stamp upon the animal developed from it the character of the parent organism, is the backbone of all success." Now it seems to me that the cook's directions for dressing a hare, first to catch him, would be very applicable here. First, get your breed that you wish to perpetuate, and then you are all right. He tells us further back that "the fundamental principle that *like produces like* is not an invariable rule; were it so, every breed would retain the same qualities throughout all time, and no improvement could be effected."

Now, it seems to me that the law that like produces like, is totally inapplicable in this matter. I can't conceive of any possibility of its being brought to bear upon it, for I conceive it to be utterly impossible to place any given number of animals in the same circumstances; and, consequently, there is no chance for the operation of the law.

But I must leave the Professor, and pass to some remarks of Mr. Goodman, of Lenox, Mass. He says, "this subject is one which, perhaps, no unprofessional man can treat well." In speaking of what he calls "cock-tailbulls," he says: "we have, in most of our societies, eliminated them, cleaned them out. But every year the question is brought up, and we have to fight it over again. But we are in hopes that this year the Board or the Legislature will fix it so that hereafter none of these 'cock-tail bulls' shall be brought out for service, or at any rate for the premium at our fairs." Think of that, brother farmers; he wants it fixed so that however good an animal you may have, you shall not only be debarred from offering it for a premium, but also from using it at all! Owing to ignorance very few farmers understand this matter of breeding. It is very difficult for one not "well grounded in science to arrive at a nice appreciation of those distinctions which learned men make, or to understand and carry away with him much information from a lecture like this, replete as it is with theories and facts." In this remark I perfectly agree with him.

The point I wish to make is, that breeders of blood stock have not as yet agreed upon what shall be considered pure blood. Some say that crossing to the fourth or sixth generation we get pure blood, while others say a much longer time is necessary. But they all agree that "Charthage must be destroyed;" in other words, that all other animals must be pushed aside at our Fairs to make room for these fancy animals. I would like to have some of these sticklers for pure blood tell us whether there is any difference in the composition of the blood that might be drawn from an animal fed on the short pastures of some partsof Boxford and one of those pampered Ayrshires or Short-horns, any more than in that of the human race; for we have the authority of Holy Writ for saying that "God made of one blood all the nations to dwell on the face of the earth."

Now, if climate and food have made all the difference in the human family, why not in the brutes? If through a long course of years the inhabitants of a certain portion of our globe have had certain characteristics stamped upon them that fit them for the localities in which they are placed, why attempt to supplant them with a race totally unfit for the locality? As, for instance, to attempt to raise the fat and rubicund Englishman amid the eternal snows of Greenland.

I certainly would not object to the importation and breeding, by gentlemen of means, of these foreign cattle. Those men of wealth who can afford to sink hundreds or thousands of dollars yearly in the embellishment of their farms, are not to be blamed for wishing to have these sleek looking animals about their premises.

One word as to the value of these pure bloods as milkers. I am engaged in making milk for the market. Many of my cows are picked up from the hills and valleys of New Hampshire, Vermont and Maine, and yet I have sometimes compared notes with Dr. Loring's Ayrshires, and if I am not mistaken, I have generally been ahead of him in the amount of milk per cow.

One word as to those herd books. If I am not mistaken, any man can get an animal entered in them by paying one dollar. Now if a man would like to raise the price of an animal from $25 to perhaps $200 or $300 or $500, is there not a temptation to attempt it by the payment of one dollar? And yet it is laid down as good authority, if the animal can be found in the book, that it is pure. Now if it is a fact that the mass of farmers don't know what is for their interest; that the animals that have been bred on the soil for two hundred years are unfit for the farm, and ought to be swept out of the way by legislative enactment, and that pampered foreigners and their progeny alone are to be the recipients of public favor, then it seems to me that some standard of excellence should be agreed upon; more especially if, as asserted by Mr. Goodman, that we "can, by a proper selection, produce just such results as we desire." I say there should be some standard adopted, and a note made of all that fall short, as well as of those that attain to it, so that we may know what the chances are of obtaining animals of superior excellence from the high-bred and high-fed breeds.

Thus, brother farmers, I have endeavored to point out a few of the reasons why our native stock should not be pushed out of the way to make room for these interlopers. I know I have not done justice to the subject, according to my ideas of it, for it would take a volume to do so. I do not believe it was the intention of the founders of our agricultural societies that such a state of things should ever take place. I believe it was their intention to encourage true excellence wherever found. And while I know that no intelligent farmer would, for one moment, object to these "pure bloods" receiving their due share of public favor, I do object,—and I feel that every practical farmer should protest against things being so manipulated as to favor exclusively the breeders of these fancy cattle, when their chief claim to favor rests upon that fact, and that alone too, that their names can be traced in the book of pedigree to some foreign importation.

J. L. HUBBARD.

Peabody, Mass., July 28, 1871.

REMARKS.—A written pedigree is, we suppose, required of all applicants for a herd-book record—a pedigree that traces the descent of the animal to be entered to some herd-book animal.

For the New England Farmer.

SUNAPEE LAKE.

Sunapee Lake is situated in the towns of Newbury, New London and Sunapee, N. H., and is about 32 miles northwest of Concord. It is a beautiful sheet of pure, clear water, 10 miles long and from 1 to 3 miles wide, and is more than 1000 miles above the level of the sea. It is on the height of land between the Connecticut and Merrimac rivers. It is the reservoir of numerous brooks and rivers flowing from the above named towns, and the source of Sugar River, a wild rapid stream, which flows through Sunapee, Newport, and Claremont, into the Connecticut River.

The extension of the Concord and Claremont Railroad, which is now building, passes along the western shore for two miles, and affords to the traveller one of the most pleasing prospects New Hampshire scenery. On one side are the clear sparkling waters of the Lake, green pastures, fine farms and woodlands sloping back from its farther shore; on the other, the everlasting Sunapee Mountain, whose base comes to the very edge of the lake, and whose summit towers 1500 feet above. On the one side, nature appears in its wildest grandeur; on the other, it is softened by clear water, green fields of waving grain and grazing herds.

Near the lake is the summit, or the highest point of the railroad between Concord and Claremont, and consists of solid granite, through which a cut of 500 feet in length and 50 feet in depth had to be made. We witnessed, at the time of our visit, the largest blast through the whole progress of the work. There were six thirteen-feet holes charged with glycerine and all ignited at the instant by means of a galvanic battery. We had a fine view from a hill, fifty rods distant, and when the electric spark was applied it seemed as if the whole hill was rising up. The air was filled with huge fragments of rock; then came the deep rumbling crash, as if an earth-

quake had burst from its pent up prison in the side of the mountain. Thousands of tons of rock were loosened by this blast. Two stationary engines furnish the motive power for working the derricks and drilling. The debris is loaded on to cars and dumped from the grade some 150 rods each way.

Farm of Messrs. Johnson & Cogswell.

After partaking of a lunch on the shore of the lake, we turned our steps towards a farm some three miles farther on, situated high up the side of the mountain in Newbury. Messrs. Johnson & Cogswell, the owners, may well be called the modern pioneers of Merrimac County. They commenced here about ten years ago, to clear up a farm in the heart of a dense forest on the north side of Sunapee Mountain. By indomitable perseverance, and suffering many hardships, they have hewed out a home for themselves that they may well be proud of. They own 400 acres of land, and have cleared 150; the rest is a primeval forest of spruce, hemlock and hard wood. They have cleared one large field of rocks and stumps, making it suitable for the mower. Their pasturage is the richest in the county. They have built a barn 70 by 40 feet, with a cellar under the whole. Their crops consist of four acres of potatoes,—and stouter ones I never saw,—three acres of excellent wheat, and twenty-five tons of early cut hay in the barn. The stock consists of six cows, and four large oxen for lumbering, and a few mutton sheep.

They have not spent much on their dwelling house as yet, but told me they had plans matured for a new and commodious house, to be 100 by 50 feet, and three stories high, with wing to match. They intend to fit up a first class summer boarding house. From the hill above the house is one of the lovliest prospects we have ever seen, embracing the whole of the lake, with numerous islands; New London village, about 8 miles away; Kearsarge to the right; old Ascutney and the Green Mountains at the left; and, in the far distance, the whole range of the Franconia and White Mountains; while close behind, almost within a stone's throw, are the Sunapees, with their dense, sombre spruces and hemlocks.

The farm is rich in all the elements of plant food, both mineral and vegetable, and we saw evidences about the premises which establish the fact that it will not deteriorate under the management of the present owners. The cattle hovel was well supplied with dry earth, and the cattle are all stabled nights through the year. The hogs are kept in the barn cellar, and a large quantity of manure is made. Mr. Johnson says his neighbors laugh at him for spending so much time bothering with manure, on his new rich farm, but he thinks the laugh will come out the other side of the mouth by-and-by.

We were invited into the house and partook of some delicious raspberry shrub, which Mrs. Johnson knows how to make; also some maple syrup, the clearest, purest, and best flavored we ever saw or tasted. We asked Mr. Johnson the secret of making it. He said he used one of the patent evaporators; the rest of the secret is contained in a nutshell—he let *pure sap* run into one end of the evaporator and *pure syrup* run out at the other end. This is the whole secret. The syrup we tasted was just as it came from the evaporator, put into bottles while hot, and hermetically sealed. They have also put up 150 quart, and 36 two-quart cans of field strawberries, this summer. Probably a hundred bushels of strawberries could have been picked on the farm the past season.

Now, Messrs. Editors, I write this letter to show what can be done in New Hampshire by energetic, persevering young men. Messrs. Johnson & Cogswell commenced with little else than clear heads and willing hands, and their property has quadrupled within the past five years, and we predict that it will more than quadruple for the next five. They have millions of feet of lumber within two miles of the railroad now building, with a good sawmill on the place. Thus they are bound to chop and saw themselves out a fortune. What need of going to the far west, when there are thousands of as good chances in the New England States waiting for young men who are willing to work out their own fortunes?

S. C. Pattee.

Warner, N. H., Aug. 22, 1871.

Preserving the Flavor of Butter.—The German *Agriculturist* says that a great portion of the fine flavor of fresh butter is destroyed by the usual mode of washing, and he recommends a thorough kneading for the removal of the buttermilk, and a subsequent pressing in a linen cloth. Butter thus prepared, according to our authority, is preeminent for its sweetness of taste and flavor, qualities which are retained a long time. To improve manufactured butter we are advised by the same authority to work it thoroughly with fresh cold milk, and then to wash it in clear water; and it is said that even old rancid butter may be rendered palatable by washing it in water to which a few drops of a solution of chloride of lime have been added.—*Ag. Department Report.*

Tall Herdsgrass.—Though the average crop of hay may be less this year than usual, it is evident that grass has not lost its ability to grow. We have received a parcel of heads of herdsgrass, from 6½ to 8 inches in length, cut from stalks 5 feet and 11 inches high, which grew on a field of new land in Coaticook, Canada East, owned by G. W. Kinney, Esq. The grass on the whole field came nearly to a level with a man's head.

STABLE VENTILATION.

RECENT look into some city stables has turned our thoughts to the subject of the above heading. How horses live over night, even, in such numbers as are crowded into some places, and closely confined in so impure an atmosphere, is certainly a matter of wonder.

There was a time, we suppose, when mankind very imperfectly understood the nature of air, the manner in which it supports life, and the causes which destroy its vitality. But now that science has developed the facts which ought to instruct us in this matter, there is no reasonable excuse for a man to torture his animals by depriving them of a sufficient amount of the breath of life.

Air is essential to the existence of every living being. Breathing it greatly alters its properties. Breathing it over two or three times exhausts that portion of it called oxygen, and then the animal dies. A mouse enclosed in a jar so that no air could get in or out, seemed to feel no inconvenience for a little time; but as the oxygen diminished, he was obliged to inhale another property of the air, nitrogen, and he grew more and more oppressed, and soon died of suffocation. The horse would die under similar circumstances.

The most dreadful example on record of the destructive consequences of a want of atmospheric air exists in the horrid fate of 146 Englishmen who, in 1756, were imprisoned in a small room, only eighteen feet square, called the Black Hole of Calcutta. There were only two very small windows in the room, and as both were on the same side, ventilation was impossible. Soon after the door was closed the men began to experience heat and intense thirst. In a short time many became delirious, and at the end of six hours ninety-six were relieved by death from their torments. In the morning only twenty-three were found alive, and of these only a few ultimately survived.

Some of the stables we have seen, are not Black Holes, but they are quite offensive ones, although ventilated in some measure. If the horse stalls are below the ground,—which is frequently the case,—there are openings over the feed racks which permit the air to rise upward, passing the horse's nostrils or over his head, on its way. Where the stalls are above ground, there is sometimes a small hole cut through the boarding of the building, if a wooden one, or left in the work, if a brick one.

This is a very common arrangement, both in city and country, and is one of the worst, we think, to which the horse can be doomed. It is true that respiration may proceed and life exist for a time, in places where the air is impure to a considerable degree, yet as pure air is essential to the full enjoyment of health, every degree of impurity must be having an effect upon the animal, although it may not be perceived immediately.

Ventilation, therefore, as a means of preventing disease, is not only important to the comfort of the horse, but as a protection to our property. We paint our buildings to preserve the wood work. We house our machines to prevent rust from eating them away. We do both, because it is economical; we save our property by so doing. But we force our horses to breathe vitiated air, by standing in stables where our clothing becomes saturated with impure odors in a very short time.

Badly ventilated stalls are usually rather dark stalls. No animal loves the pure, clear light better than the horse. It is cruel to deprive him of what he likes so well, and what never does him harm. His stall, therefore, should not be so placed as to bring his head against the side of the stable; but if possible, where he can have a free and cheerful "look-out," and where pure air can reach him at all times.

It will be found greatly to the benefit of the horse if his feed-box is next to the barn floor instead of being against the side of the building. He can be more conveniently fed, his droppings will not be offensive in the floor, and he can always have light, and pure air, when his surroundings are kept in a cleanly condition. Then there is the great pleasure added, of always looking an old and faithful servant in the face when you approach him!

—A San Francisco dispatch says that 11,000 barrels of flour have just been shipped from that port for Hong Kong, that another similar shipment will soon follow, and that a sale of 3000 barrels of flour has just been made for Singapore.

A FIELD-DAY ON THE FARM OF DR. NICHOLS.

Hot weather—Gathering of Farmers on the shores of Lake Kenoza—Trustees of Essex Agricultural Society—New Hampshire farmers present—Objects of the gathering—Subjects discussed and opinions compared—Dinner and after-dinner talk—Examination of crops—Modes of culture and use of fertilizers explained—A ride through the city, and views of the surrounding country.

A Pleasant Gathering of Farmers.

Many times, in these columns, have we urged the importance of farmers coming together to find change of thought, make new friends, discuss topics relating to their business, and gain strength and wisdom by so doing.

Persons engaged in other avocations do these things, and find profit and encouragement in them. They have no more spare time than has the farmer, and they have less conveniences and facilities for social gatherings.

A few days ago, Dr. J. R. Nichols, of Haverhill, Mass., invited the Trustees of the Essex County Agricultural Society to visit him at his farm, which is about one mile from the city. A few other gentlemen were also invited, the whole number being about eighty. Some of the leading New Hampshire farmers were present from Exeter, Hampton, Epping and Hampton Falls. John B. Clark, Esq., Editor of the *Mirror and Farmer*, Manchester, was also present, and some of the Boston daily papers were represented.

The weather was hot; one of the hottest dog-days; but in the cool shade of the charming oaks on the banks of Kenoza Lake, and fanned by the fresh breeze that came to us after rippling the surface of the sparkling waters, we found the temperature just right for an out-door gathering.

The objects sought in coming together were to know each other more intimately, and to learn of our host something of his new modes of fertilizing and cultivating the soil. The crops of the farm were examined by many persons competent to judge of them, and pronounced good, even for a highly favorable season. The corn was stout and tall, the ears large, and in many instances two perfect ones upon a stalk, and promises a harvest of near one hundred bushels to the acre, besides a large crop of excellent fodder.

The potato crop was carefully examined, and it was judged would yield three hundred bushels to the acre.

Standing in the midst of these crops, the inquiry was made,—"What was the condition of the land before the potatoes were put upon it?" The reply was: "Three years ago it was covered with young oaks. These were pulled out by the roots, the land thoroughly ploughed and pulverized, and last year planted with potatoes. Gypsum and ground bone were applied to the hill, and the crop was a large one. Last spring it was ploughed deeply again, pulverized finely, applied the same fertilizer, kept the weeds down, and here is the result. *They have had no stable manure whatever!* The potatoes were large, fair, and as good-looking as potatoes could well be. The reader ought to know, however, that the potato field was on the edge of a meadow of a rich black soil, and that it received the wash of a narrow strip above on its whole length. These advantages would not, we should judge, bring such a crop of themselves.

The corn crop was carefully examined. The soil planted was treated much as was that for potatoes. Numerous questions were put, all of which were replied to minutely by the Dr., stating the names of the fertilizers used, the quantity, and when applied.

The grass crop excited surprise. About twenty-three acres had been mown, and fifty tons, by measure, of as good hay as was ever stowed away, were upon the scaffolds and in the bays. It was bright, and as fragrant as a nosegay. We walked over the acres where this was cut, and found another crop which it was estimated would yield 1500 lbs. per acre, or about seventeen tons more! Some of the acres would give a ton, as the thick herdsgrass stood knee high!

The Dr. keeps five horses and some ten head of cows, and all the manure made in every way, is used upon the farm. But where it has been employed the fact was stated. On one piece, a high and dry knoll, an experiment has been going on for seven years. Not a shovelful of stable manure has been added. Last year we saw the crop growing upon it, and estimated it at fully a ton per acre, but did not inquire what it was this year. It is the aim of the Dr., and his advice to all is, to make all the manure possible, and use it on the farm. In most cases, this is not enough,—

and here is where chemical fertilizers can profitably come in. By their aid, lands long languishing may be brought into a state of fertility, and gradually all the cultivated fields and the grazing lands be brought into a profitable condition.

The Dinner and After-dinner Talk.

After a sumptuous dinner, the leading dish being a capital chowder, with fruits of the season, creams, ices, coffee and tea, DR. NICHOLS briefly explained his reasons for inviting his friends to meet him. They were *social* and *instructive*. He desired to learn of others, and in return to say something of his peculiar modes of cultivating the soil, and to show the growing crops to those present, in corroboration of the results of his practice. His remarks were received with demonstrations of approbation.

The Dr. then called upon Major BEN. PERLEY POORE, of West Newbury, who drew down "the Grove" by happy hits upon various practices. He dwelt mainly upon the progress and increased profits of scientific farming.

Upon being called upon, Gen. SUTTON, of Salem, spoke in high terms of the effect of gatherings like the present upon the minds of farmers, and thought them of more importance than all the premiums paid out at the shows.

Mr. J. D. LYMAN, of Exeter, late Secretary of State in New Hampshire, being called on, said farmers now acknowledge the relations of science with the practical affairs of agriculture, and continued for some minutes on this theme in his usual earnest and attractive manner.

The Editor of the *Manchester Mirror and Farmer*, JOHN B. CLARKE, Esq., responding to a call, said he knew no man to whom the farmers of New England are looking with so much interest as to our host of to-day. The attention he has called to the use of chemical agents as fertilizers for crops is universal among our people, and they are impatiently waiting for more light upon the matter. We have some results of chemical fertilizers about us to-day of the most gratifying character.

Hon. ALLEN W. DODGE, of Hamilton, spoke of "the hue-and-cry" against farming as being unprofitable. Farmers support all, he said, and with the aid of science will lead the nation on to an immense power and wealth.

Mr. FAY, of Chelsea, and Mr. WARREN ORDWAY, of Bradford, made brief remarks, and then the party rode to a beautiful eminence on the farm, where they had a fine view of the city and surrounding country. From the farm they rode to the Station, where the party separated, all highly gratified with the events of the day.

On the following day we had the pleasure of returning to the farm, and of looking over the buildings and crops in a more quiet way. We found all things in scrupulous order; every department of the buildings sweet and clean; the yards and roads inviting to man and beast. In the fields, weeds were underlings, and the whole presented an air of thrift and order which was worthy of imitation and refreshing to see.

Among the gentlemen who enjoyed this festive occasion, there were two who are quite extensive landowners. Gen. SUTTON, of Salem, has a large farm in the ancient town of Ipswich, and some three hundred acres, we believe, within the limits of the city of Salem.

Mr. PEIRCE, of the firm of Peirce & Bacon, Boston, has a farm at Ipswich, upon which he keeps one hundred head of stock, and is bringing it up to compete with the Garden of Eden as nearly as he can. He owns a very large extent of land in Texas, and now has 2,500 acres in corn, six hundred acres in cotton, and four hundred acres in sugar cane. He makes the town of Topsfield his home, and in his farm enterprises is endeavoring to ascertain what amount of crop an acre of land is capable of producing. This is just what New England farmers need; that men of financial, as well as agricultural skill, shall make such experiments on New England soils as have been made by such persons on the soils of Old England. Skill and means to test the productive power of our soils, the best way to manage them, and the kind of crops to which they are best adapted, are wanted.

In the cold grapery of Dr. NICHOLS, we found eight varieties of grapes, now in the sixth year of their growth, and presenting a a most luxuriant appearance. They *have never had any stable manure*. Most farmers can have one if they choose, and at little cost or labor.

We agree with Mr. CLARK'S remark,—that we know of no man to whom the atten-

tion of farmers is so hopefully turned as to Dr. Nichols. We trust that he will dole out the results of his experiments to us gradually, and in a light so clear that he who runs may read and understand.

CONVENTION OF AG'L COLLEGES.

Within a few years past institutions have been established in most of the States of this Union for the purpose of "teaching such branches of learning as are related to agriculture and the mechanic arts, without excluding other scientific and classical studies, and including military tactics." The details of the organization of these institutions were left to the different States. Massachusetts divided the fund appropriated to this purpose, between an institution in Amherst, known as the Agricultural College, and one in Boston known as the Institute of Technology. Maine established a single institution, called the State College of Agriculture and the Mechanic Arts. Vermont, New Hampshire and Connecticut, established industrial departments in colleges previously existing in those States. A similar diversity characterizes these institutions in other parts of the Union. Different individuals among the managers of these institutions have had different theories as to the kind of education needed by those for whom these schools were founded, and different ideas were entertained as to the means of accomplishing even those objects which all regarded as desirable. In fact, these several institutions have been commenced as experiments, and each one is naturally anxious to know wherein others have succeeded or failed.

Hence those interested in the management of these colleges met at Chicago, August 24, for the purpose of comparing results, and for devising some plan by which the experience and labors of each can be made available to all, and more useful to the industrial classes generally.

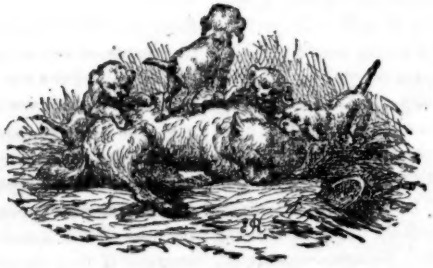
We have seen a report of only a part of the proceedings of the convention. The officers are as follows:—

President—Dr. J. M. Gregory, LL. D., Regent of the Illinois Industrial University.

Vice Presidents—Dr. M. Miles, Prof. of Agriculture in Michigan Agricultural College; Prof. D. C. Gilman, of Sheffield Scientific School, New Haven, Conn.; Rev. Joseph Denison, President Kansas Agricultural College.

Secretaries—Prof. A. N. Prentiss, of Cornell University; Prof. John Hamilton, Pennsylvania Agricultural College.

The question of experiments in crops, stock raising, &c., by the agricultural colleges was one of the first that was considered by the convention, and a great variety of opinions was found to exist on the subject. The labor question was also discussed. But we are unable this week to attempt even a brief synopsis of the proceedings.

ROOFS AND SHINGLES.

Twenty years' experience in building has taught us that extra shaved pine shingles, made of large timber, will outlast all other kinds. We stripped a roof covered with this kind, and on inquiry, learned it had been in use forty years, and there were no very bad leaks then. Extra shaved cedar shingles are next best. Shaved shingles are more durable than those of any other manufacture. Spruce, if the timber be large and the sap all taken off, will last fifteen or twenty years, but shingles made of small spruce or fir timber with sap on, such as are imposed upon the market, are comparatively worthless, especially the extras, and so are poplar, although much depends on the condition of the timber when it is cut. Some kinds of ash shingles last well, but they warp and crack badly. I have used hackmatack shingles, but never observed as to their durability. Concerning the best pitch of roof, my observation has been that the steeper the roof the longer it will last. The fact that shingles will last much longer on perpendicular walls than on any pitch of roof, is evidence in favor of steep roofs.—*A. W. Clark, in Maine Farmer.*